THE NEW YORK STATE

Conservationist

October-November 1951

CAMP 3 by Clayt Seagears

STATE OF NEW YORK, CONSERVATION DEPARTMENT

FOREVER WILD

Most Americans regard the Constitution as a sacred document. To say that something is unconstitutional has about the same weight and meaning as to say that something is sacriligious, because most of us seem to feel that Human and Divine Law are pretty closely interwoven in our Constituiton. In any case, we are proud of our Constitution, and rightly so. For one thing, it has worked.

But we shouldn't lose sight of the fact that we've had to *make* it work. Through amendments and through decisions on interpretation by the Supreme Court, we have kept our Constitution abreast of the times, so that today it meets our needs as well or better than it did 150 years ago. What is more important, in making the changes we have not sacrificed any important democratic principles; rather, we have underscored them.

If we are proud of our Constitution, we should be equally proud of the intelligent and practical way that we've made it work.

The State of New York has a constitution of its own, and if we are to have the same enduring respect for it as we have for its national counterpart, then we should take the same pains to adjust it to our current needs—and so make it work.

The part of the State's constitution that has to do with Conservation is Article XIV, which says at the outset that all State-owned Forest Preserve Lands "shall be forever kept as wild lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed."

That last clause prohibiting cutting is the crux of the matter. The lands in question are forest lands, and this clause sets a management policy for them: there shall be *no* management;—leave the Forest Preserve alone.

As the appointed guardian of this property, the Conservation Department would be at fault if it didn't inquire as to whether or not this management policy, written many years ago, is still operating in the best interests of the people of the State of New York. In this connection, we pose the following questions:

1. If our objective is the preservation of our forests, are forests best preserved by prohibiting cutting?
2. What is meant by "forever wild"? Does it suggest an abundance of birds and animals, and if so, does our present management policy promote that objective?
3. How does the present management policy, as prescribed by our constitution, contribute to the economic needs of State and Nation?
4. Under this policy, are we making the most of the potential recreational values of the Forest Preserve?

In asking these questions, we advocate nothing more than a deliberate, sensible, foresighted approach to the right answers. It's our job to help with the answers, but since this is a democracy, the decision rests with the people and their elected representatives.—Editor

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STATE OF NEW YORK
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CAMP 3

ON a bluff that looks down on the deep pool at the head of the stillwater, there is a big, straight pine. The Cross of Christ is cut deep into the bark and wood on the side of the trunk that faces west, the side that faces the deep pool and the dark green forest across the river. The cross will be over that pool as long as the pine stands. But when the pine goes down the cross will of course go with it, and when that happens there probably won't be anybody around who will bother to carve out another one, or who knows what it's all about anyway.

The cross is in memory of a lumberjack who drowned there at the head of the stillwater. One summer evening some of the bonded Canadians went up there from Camp 3, to wash and cool off, and the foreman's son down at the camp heard them yelling. But he couldn't speak any French, and by the time he found out what had happened, it had happened. The other Frenchmen, good Catholics, carved out the cross. You can see it clearly if you happen to approach Camp 3 by way of the river.

That's as good a way to approach the camp as any. You can poke down along the river, flushing deer and hooded mergansers from the alder-grown banks, and when you round a bend in the stillwater, there on a flat above a shallow cove, there sits Camp 3. But you can also walk down the long slope of the ridge to the east, following a log road crisscrossed with poplars that came down in the storm, and suddenly you walk out of the woods and into Camp 3.

Camp 3 is an abandoned pulp camp. It was set up six years ago as headquarters and living quarters for about 40 men, three-fourths of them French-Canadians brought into this country under bond, who had the job of cutting the spruce and balsam off a 1,400-acre parcel of land owned by a paper company in the central Adirondacks. They finished the job in two years, put about 11,000 cords of pulp into the river for the drive down to the mill, and then pulled out. There is a French calendar on the wall of the cook shack; the last month turned up is Mars, dix-neuf cent quarante-sept, and it was in March 1947 that the bonded Canadians and everybody else started back

up the trail to town, the job finished. Camp 3 was left for the river drivers who would come through later that spring to push the pulp down the 60 miles of river to the mill. And when the river drivers got through with it, Camp 3 had served its purpose and was abandoned.

It was really abandoned. When you walk into Camp 3 today it looks as though somebody had shouted *Fire* in the middle of the night and everybody had just taken off. On the walls of the bunkhouse, hanging on horseshoe nails or wooden pegs driven into the logs, are hats and shirts and trousers and woolen socks, and on the rough floor below are battered boots and shoes, somehow the most pathetically suggestive of all empty clothes. On the big table in the cook shack you will find half a case of baking soda, plenty of ketchup, salt, sugar, cups, plates, pie tins, and cane syrup for the pancakes that got dished up every morning.

Of course all this has been there for three or four winters, untouched by anything but rats and mice and porcupines and maybe an occasional passerby. The porcupines especially have taken over; the door of the big range in the cook shack hangs open, and there are droppings even in there.

It's hard to realize that only a few years ago this camp was home for 40 men during two summers, for 30 men for two winters. On the flat outside the buildings the grain that the horses didn't get has seeded, and the deer are fatter therefor. They moved in as soon as the men moved out. In fact the whole Camp 3 country, with its new sprouts and briars and ferns and grass, has pulled in game from miles around.

EARLY in 1944, foresters of the company that owns this land went in and cruised it. They decided that the spruce and balsam was ready to cut, that there was enough of it to make the operation pay, and that it ought to be cut anyway because of the spruce budworm that had gotten into it. So the following spring the operation got under way.

First they had to swamp out a road into this country, a road that would take horses and tractors hauling heavy loads into the camp and back out again. It's eight miles by way of the river from the nearest point of access, and 15 men worked a month and a half swamping out eight miles of road, cutting hardwoods and laying them as skids 18 inches apart so the road would have a base through all the low places. When it came to crossing the river, the tractors made it through some shallow rapids, but a horse might have broken a leg in that going. So they got a small boat and a horse that didn't mind swimming, and the first horse across the river made it through a deep pool, guided by a couple of men in the rowboat.

With the necessary power on the other side of the river, they started in to build a ferry that would take the other horses and all the heavy stuff. They built a raft that was floated by 32 empty oil barrels and guided by a cable stretched from bank to bank. By hauling on the cable, they got seven horses across at one time. The teams and wagons that brought provisions in to the camp for two years always crossed on that ferry.

When it came to building the camp itself, the man that was going to be foreman was in charge. They cleared and graded the flat above the stillwater and then set up an office, a bunk house for 40 men, a cook shack and mess hall, a stable for 14 horses, a blacksmith shop, a tractor shed, a tool shop, a screened meat hanging shed, a storage shed for dynamite, and a nice congenial five-hole privy. They dredged out a spring hole and used about 800 feet of pipe to connect it with the mess hall and the bunk house, where gas driven pumps and pressure tanks delivered it to the big sink and a tin-lined shower stall.

It took the foreman and about 20 men roughly three weeks to cut the poplar, tamarack and balsam logs that went into these buildings, and to set them up. On boards, they had a good break. There was another Company camp about three miles up the river, abandoned for a couple of years, and they ripped the boards off this, threw them into the river and picked them up as they floated by Camp 3. That made things easier, but there was still a lot of work to do against the minus-40 temperatures that come with an Adirondack winter. The foreman kept four men busy for another month, just finishing up.

Then they strung a telephone line back to civilization, built a floating footbridge so that the men could get back and forth without having to wind up the ferry, brought in the supplies, 14 horses and food for them, two tractors and an arch and plenty of fuel, the men and the tools—and Camp 3 was all set to go.

The foreman says it was the nicest, tightest camp he's ever worked out of, warm even at 40 below. He didn't have much trouble with the men because most of them were bonded Canadians, over in this country with the single purpose of making money, so they stuck to their jobs and made the money and then (as far as anybody knows) they went home, all but the one that drowned. Almost all of them were paid on a piece-work basis and they could work seven days a week if they wanted to. Some of them did. But some of them headed up the river to spend Sunday in town, in churches or saloons or both. Some of them brought back liquor to camp. That was all right with the foreman provided it didn't cause any trouble, but one day the chore boy brought back some stuff and got the cook drunk. The foreman figured that this was trouble, so he fired the choreboy. The cook got mad and quit. Then there was trouble.

But most of the time there was so much work that there was very little trouble. When the men came in at night they ate, then looked at comic books or listened to Radio Canada or thumbed through back issues of movie magazines (there was never a woman in Camp 3) and then went to sleep in their double-decker bunks.

As far as getting out the pulp was concerned, that was comparatively easy too. The ground was good to work on, and the long slopes to the river made for good skidding. They cut from the middle of May to Christmas, skidded from Christmas to the middle of March. Down at the river they piled the wood on the ice, and when the ice went out in late April the wood went with it until it came up against a boom that was strung across the bottom of the stillwater.

The river drivers took over from there. When the river was right and they were ready, they cut loose the boom—and down went the four-foot sticks of spruce and balsam, end over end down through the rapids, backing up and needing some pushing in the pools and eddys, then on down again, out of the Adirondacks to the mill.

At the mill this spruce and balsam was converted into paper of high quality, paper such as this magazine is printed on. By selling this paper the Company could meet the bills for setting up and operating Camp 3; the bills for 30 years of taxes on the property that in due course of time produced the spruce and balsam to make the paper; the bills for the men that cut the wood, drove it to the mill, put it through the mill, the bill for the man that drowned; the bills for machinery and diesel oil, horses and hay, factory, files, nails, anvils and blankets, overhead and hardware.

EARLY in the 80s, the timber crop in the Camp 3 country was harvested for the first time. It was a fire that did the harvesting, and it did such a thorough job that forest growth has been affected by it ever since. Fifteen years or so after this fire a Ranger went in and said that the country was still mostly raspberry briars, with black cherry and poplar coming through them and softwoods just beginning to seed up underneath it all. Game was aplenty, he said.

In another 50 years the softwoods came out on top, and that is the main reason why Camp 3 was set up when and where it was. In this, the second harvest, balsam over six inches was cut, and spruce over eight inches. Left behind—because the Company was not set up to handle them economically—were the pine and the poplar that now dominate the lower land, and the hardwoods on the high ridges to the east.

What the third harvest will be, and when, nobody could say for sure. If it would pay, the Company might go back after that pine and poplar, and then Camp 3 might come to life again in a year or two. The pine could go into pulp and travel the river route to the mill, and so could the poplar, provided it was peeled and didn't stay in the water more than 60 days.

The Company is well aware of these possibilities but right now the best it can do is to hope and plan according to the way it is presently set up to do business and make it pay. In other words, the Company hopes and plans for another cut of spruce and balsam about 30 years from now—but is ready to change its plans and its machinery as the future unfolds.

Changes may be required. The poplar that's in the Camp 3 country right now makes good cover to nurse softwoods through the early stages, but included among the softwoods is pine, and the pine is there right now too. In fact it has a good head-start. The Camp 3 country may come up to pine, and then the Company would have to use pine to pay its bills instead of spruce and balsam. The Company should be able to meet that problem.

But there's one problem that the Company alone can't meet, and it's one that might close all the Camp 3s in the Adirondacks. This is the problem of assessment and taxation. Before the Camp 3 country was cut it was assessed at $12 an acre; now that it's been cut the local assessors figure it at $4 an acre. But the Company figures that it's got to pay at least 30 years of taxes on this property before it can cut anything to pay them with, and what with 30 years of rising tax rates and increasing assessments, you don't have to be a mathematician or a forester to see that it's a distinct possibility that the Camp 3 country could be assessed and taxed right out of Company ownership. Then who would take over? The State?

The State already has some land that runs along the southeast corner of the Camp 3 country. This is Forest Preserve land, which our Constitution says must be left untouched. Right now there's no mistaking where the Camp 3 country leaves off and the Forest Preserve begins, because on the Forest Preserve side most of the big spruce and balsam are lying on the ground, knocked over by the storm, and it's very doubtful if anybody will make a bid to salvage them. They could have gone out with the wood that came off the Camp 3 country, but it's too late now. Now, on one side, the crop is on the ground and will either rot or burn; on the other side it went to market.

But even in the days before the storm came along we always made it a practice to push on through that section of the State land so as to get into the Camp 3 country as soon as possible. We still do; just pick up one of the old skid roads and follow on down to the river, looking around. It's always seemed to us that this is country with an interesting history, and with more yet to come. Besides, as the Ranger said 50 years ago, there's game aplenty down in there.

—P. W. Fosburgh

CHRISTMAS SUGGESTION

It took the foreman and about 20 men roughly three weeks to cut the poplar, tamarack and balsam logs that went into these buildings, and to set them up. On boards, they had a good break. There was another Company camp about three miles up the river, abandoned for a couple of years, and they ripped the boards off this, threw them into the river, and picked them up as they floated by Camp 3. That made things easier, but there was still a lot of work to do against the minus-40 temperatures that come with an Adirondack winter. The foreman kept four men busy for another month, just finishing up.

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—P. W. Fosburgh

CHRISTMAS SUGGESTION

CHRISTMAS CONFESSION

ABOUT P.-R.

We need amendments to the Wildlife Restoration Act of 1937

THE time has come for a forthright overhaul of the now historic Pittman-Robertson Wildlife Restoration Act of 1937. This is the Act which since passage has provided the states and territories with over 68 million dollars for wildlife restoration work—including a record-breaking 17 million for the current year. The source of funds is a Federal excise tax of 11 per cent on the sales of arms and ammunition, and war clouds no doubt accounted for the record buying of these items during the past year. State allotments are based upon a hunting license–land area formula, and to take advantage of its allotment each state must provide 25 per cent matching funds.

The need for amendment stems basically from developments in the wildlife conservation field which could not have been anticipated in 1937. The Act then and now provides that the funds must be used for wildlife restoration projects, including "the selection, rehabilitation and improvement of areas of land or water adaptable as feeding, resting or breeding places;" for the acquisition of such areas; and for "research into problems of wildlife management as may be necessary to efficient administration affecting wildlife resources."

To narrow down the problem—the provision for wildlife research is still considered adequate, and it should be noted here that the encouragement given research by P.-R. funds has had an electrifying effect throughout the country. Hundreds of young biologists were trained and employed, and have produced desperately needed facts for the guidance of game managers.

It is the provision for other so-called "restoration" projects which needs modernization. For example, it is obvious that what the drafters had in mind was a program providing primarily for the purchase and development of game lands. This emphasis is easily understood when we recall the plight of waterfowl in the Thirties and the desperate need for the restoration of waterfowl areas. As a matter of fact, the needs of waterfowl have not yet been fully met.

But the idea that enough land can be bought and developed to take care of our upland game resource has long since been exploded. On the contrary, it is now generally accepted that the territorial needs of wildlife are so great that we must work with all land owners–encouraging and assisting them to do those things which will benefit wildlife–as a part of a sound land and water conservation program on their lands.

Despite the fact that authority for this sort of thing is not explicit in the law, much of it is being done under a liberal interpretation. In our own State, under PR-48-D (described in previous issues) we are now spending around a third of a million dollars a year to assist landowners with wildlife food and cover plantings, wildlife marsh construction, etc.—an eminently sound program because it is actually enlarging and improving our game range.

In connection with this co-operative work with landowners, we now come to a missing link in the P.-R. Act. Obviously if we are to reach the millions of individuals who own our lands there must be some kind of an extension program or information service which will bring them the latest and best information as to how wildlife conservation fits into modern land use. An educational program of this kind carried on through Conservation Department publications, county agents, soil conservation districts, etc., would probably do more than anything else to bring wildlife conservation to the land. *Yet, authority for the states to do this vital part of the job with P.-R. funds is completely lacking in the Act.* Some may argue that this work should be done with other state game funds. But the facts are that a 1951 survey shows that most state game departments are already in serious financial difficulty because of inflation. Some of them are actually unable to put up the matching funds required under P.-R. A suitable amendment to the P.-R. Act would therefore be most helpful.

THERE is still another amendment which should be seriously considered. Annual field checks on game crops and hunter and trapper takes are now recognized as essential to proper game management. But P.-R. funds cannot be used for this kind of work *unless it is disguised as "research."* Actually, it is no more research than when a merchant makes his annual inventory. By forcing game departments to disguise and charge for such work as research, P.-R. does *real* research a great disservice: It acts to make research programs and expenditures appear too large and out of line with other wildlife work. A cleancut amendment to authorize this work as game management, would, therefore, not only plug a gap but place real research on a sounder basis.

If P.-R. amendments are needed, as we suggest, then we believe it would be a wise course to have conservation leaders and organizations get together, plan, and write sound amendments deserving of national support—and then see them through.

P.-R. has probably done more for wildlife conservation than any other single Act of Congress. Let's not hamstring its future usefulness by our failure to bring it up to date.

—J. V. Skiff, *Deputy Commissioner*

STILLHUNTING

NOTE: *We seldom publish articles on how to catch more fish or kill more game. We publish this article on stillhunting the whitetailed deer because: (1) In many areas of the State, particularly in the Adirondacks, the annual harvest of deer has been below that which our field men believe is advantageous for the maintenance of the herd. In these areas in particular, stillhunting is a most effective means of taking a buck.*

(2) As a result of the storm of last November, "driving" deer will be difficult and occasionally impossible in many areas affected by the storm. This applies to sections hard hit by the storm but not so devastated as to require closing. Stillhunting in such areas remains feasible.

(3) From lack of knowledge of the essential principles of stillhunting, many people who buy a big game license in this State have gone home disappointed. A few simple hints on how to seek out deer—and have a good time in doing it—will perhaps increase the rewards of many people who invest in a big game license.

THIS is not an article for the experienced hunter. It is rather a primer designed to help those who have had little previous experience in the art of stalking whitetailed deer in New York.

As we see it, there are four fundamental rules that a stillhunter after deer should observe if he hopes to bring home the venison—and if he hopes to get the most enjoyment out of his sojourn in the woods:

First: Know your country well. That means the lay of the land, the swamps, thickets, ridges, the positions of all of these in relation to each other—and above all your own position with relation to these features at all times. It is tough for a beginner to stillhunt successfully in new country. Before the hunting season a weekend spent in reconnaissance will pay dividends.

Second: Learn as much as you can about the general habits of the whitetailed deer. For the whitetail is primarily an animal of habit, feeding at certain times on certain foods, bedding down in certain places according to weather conditions and locality of food, and wandering over his domain in a rather regular manner.

Third: You must have an almost unlimited amount of patience. The ability to relax both mentally and physically is a prime requisite for any successful stillhunter. The successful stillhunter is rarely a man who is out simply to kill an animal; he is out primarily to enjoy himself. But the fact is that his appreciation of the outdoors contributes materially to his success as a stillhunter, because this appreciation contributes to the relaxed mental and physical state that is required in stillhunting.

Fourth: Ultimately, of course, the success of any hunt depends upon the ability of the hunter to place an effective shot. For this reason, this article is illustrated with a drawing showing the main vulnerable areas of a whitetailed deer.

Regarding the necessity to know your country, obviously one of the first things to make sure of is that the section you select is inhabited by deer. This is not as obvious as it may sound. A few deer will make many signs and tracks, and may give to the inexperienced hunter the impression that the whole area is cluttered with deer. The experienced hunter goes a little further; he looks for abundant signs of browsing, plenty of droppings, an abundance of beds both new and old, and well marked traces of daily movements of the herd. It has been generally concluded that our eastern whitetail does not range beyond a circle having a five mile diameter during his entire life, unless hardpressed by hunters, fire or other causes, and if all these signs are not present when making your first scouting trip you'd do better to look up another piece of country.

Another factor to consider is the presence of other hunting parties nearby; stillhunting is best done in remote areas (of which we have plenty in the Adirondacks, and more than you would suspect in other sections of the State). Another day spent in traveling away from heavy concentrations of hunters is usually a day well spent.

It is generally agreed that a wet, still day is by far the best for stillhunting, and is usually worth waiting for. Stalking on snow is good if the snow is wet enough or deep enough to make the footing quiet underneath, and the advantages of tracking on snow are too well known to require further comment.

Provided you have the right conditions, your success now depends about 95 per cent on what you do—not on what the deer does. Barring outside interference, what the deer does will be largely determined by what you do. And therefore a few words with regard to the way to move through the woods.

This is the essence of successful stillhunting. The objective is to move in such a manner as to attract the least possible attention, by sight or sound. As to position, it is best to walk erect, avoiding any quick or swaying movements. Don't crouch, unless by doing so you can conceal yourself; possibly because most of their natural enemies move in a crouched position, deer always seem to take alarm more quickly from any movement made in that position. There is another reason for walking erect, and with short steps: a hunter is in a much better position to maintain his balance when erect and is also in a better position to arrest any movement if conditions require that he stop suddenly. Furthermore, since the eyesight of deer is not too keen, in an erect position a hunter can often simulate a stump or tree trunk, and what is often more important, can maintain that position without tiring.

Moving into a piece of country in which you expect to find deer, you should stop, perhaps for several minutes at a time, at frequent intervals to survey the terrain ahead. Then another three or four steps, then another pause. Don't wander through open glades or across clearings in the forest. Keep close to cover into which your shape will blend.

Remember always to hunt up-wind. Sound is carried by wind, but more important, so is the human smell—which is evidently the most alarming scent that ever reaches the nostrils of a deer.

A stillhunter moving very slowly and quietly up-wind will come to see many

deer. Even if a deer sees him first such an approach will not unduly alarm him, and deer so started seldom move more than 300 yards. At that point they will stop to look back and estimate the danger, and if there are no further alarming sounds or scents, the chances are excellent that they will settle down to normal behavior.

One of the favorite methods of hunting with a partner is "circling". Two hunters approach the expected hideout together, moving cautiously as outlined above. When fairly close, both men stop and stand perfectly still for perhaps five minutes. Then one of the men backtracks until he is out of sight, while his partner remains motionless. The man who has back-tracked then swings in a wide half circle and in 20 minutes or so arrives at a point on the other side of the cover in which the deer are expected to be found. Meanwhile, shortly after the back-tracker has disappeared from sight, the deer ahead (if there is one there) often steps out of his cover into plain view to scan the direction into which the back-tracker disappeared. If such is the case, and if the man who has remained behind is on the ball, the hunt may be over quickly. Otherwise the man who has remained stationary begins a cautious approach toward the partner who has circled to a position ahead of him. If there is a deer in between, one or the other hunter is likely to get a shot. This procedure can be repeated time after time, location after location.

For the solitary hunter, this method is of course out of the question. But he should bear in mind the same principle: don't barge directly into a likely cover; the long way 'round is usually the best.

Is it a buck, or a doe? The tracks themselves are not easy to distinguish, but a buck when followed acts entirely differently from most does. He almost invariably stalks forward under the protection of cover, while a doe will often move through open spaces. A buck almost always stops besides a screening bush or log, tree or rock to watch his tracks, while does seldom take the trouble to seek such protection. Further, bucks tend to zig-zag—sometimes bounding sideways off course to take advantage of a good observation point —while does usually travel in a straight line.

OBVIOUSLY there is no ready formula for successful stillhunting. We're just offering a few hints that we hope will help. With a little experience, the hunter learns to adjust his technique to various weather conditions and various terrains, and of course every hunter has his own tricks of the trade. There's always more to learn. But no one who has tried it ever gets tired of that kind of learning.

—JOHN E. TANCK
and FRANKLIN J. PASSER

Log Rules

A LOG RULE is a table that is supposed to give the amount of lumber which can be sawed from any given log. There are innumerable different log rules in use throughout the country. Most of them are figured on the basis of the diameter of the log at the small end, measured to the nearest inch, with the number of board feet increasing in direct ratio to the length of the log. Diameter inside the bark is the critical factor.

Some log rules, notably Doyle for hardwood and Scribner for soft, came into use many years ago. In those days, the timber was old growth and there was plenty of it. Too much of it, most people thought. In those days, too, low-grade lumber was unsaleable; it was thrown away. The result was that loggers and sawmillers didn't bother with anything but the biggest and best logs. They didn't want the small ones. Doyle recognized this fact by putting a fair and reasonable value on the big logs and an insultingly low value on the small ones. Scribner did only a little better.

The situation has changed. Our first-stand timber is going or gone, and like it or not, more and more small logs are going to the mill. To make up for this, however, profitable uses have been found for the lower grades, so no sound wood is wasted.

But the Doyle and Scribner rules are still in common usage throughout the State. In some areas, notably the Adirondacks, they dominate logging.

Take a look at the picture above. The logs are mostly white birch, with a few basswood, black cherry and beech. The diameter of each log is marked in inches above its length in feet. You will notice that the biggest diameter log there is 13 inches. The smallest is eight inches.

Log Measure	Vermont	Scribner C	Doyle	Mill Tally
10-10	42	30	22	45
8-12	32	30	12	35
10-10	42	30	22	40
11-10	46	40	31	53
13-12	78	70	61	85
9-10	37	30	16	30
9-12	54	30	19	46
8-10	33	20	10	30
9- 8	24	20	12	33
9-12	54	30	19	52
10-10	42	30	22	40
10-10	42	30	22	38
11-13	66	40	37	68
10-12	60	30	27	58
11-14	90	50	43	78
13-14	106	80	71	110
10-10	42	30	22	48
10-12	60	30	27	50
12-11	60	50	40	85
9-10	37	30	16	40
11-11	55	40	31	59
12-13	84	60	48	84
12-11	60	50	40	67
Totals	1,246	880	670	1,274

I salvaged every one of these logs from trees that blew over in the storm of November 25, 1950. It took me a day and a half to cut and skid them off a mountain in Rensselaer County down to this loading point. I sold them right there, on Vermont scale for $35 per 1,000 board feet.

Now then, look at the chart that shows exactly how each of three different log rules, all of wide usage throughout the State, figures the board feet in each one of the logs. Take a good look at the Vermont rule figures. Then compare them first with Scribner, then with Doyle. Something looks fishy? Something is fishy, and it's not Vermont. The proof of that is to be found in the mill tally column at the right. This shows the board feet of merchantable lumber which Wayne MacVeigh in Stephentown actually sawed out of each of these logs. Scribner rule has under-estimated this tally by about one third, and Doyle by almost one half. In other words, if I had sold those logs on Scribner rule, I would have been paid for just 69 per cent of the amount I actually produced, and on Doyle for 52 per cent. If I had been faced with either one of these necessities, I would have had to leave these logs to rot. As it was, using the Vermont rule, I was able to salvage them, Wayne MacVeigh was able to handle them at a profit, and the buyer of the finished boards was glad to get them.

Some Doyle or Scribner enthusiasts will tell you that these two rules are an inducement to good forestry practices in that they discourage loggers from cutting immature timber. But it works both ways; these rules also discourage the woodsmen from taking the top logs, particularly in hardwood trees, and in this time of critical blow-down and timber salvage, it is no argument at all.

There is another absurd aspect of this business of many log rules. In certain sections of the State (again notably the southeastern Adirondacks), if you owned the logs pictured above it would be possible for you to get bids from as many as seven different mill owners, each one using a different log rule and offering a different price per 1,000 feet—and you would have the added alternative of cutting your logs into four foot wood and selling them for pulp. You're a better man than I am if you have the time, the inclination, and the ability to sit down and figure out which one of the eight possibilities offers you the best return.

We need a single generally accepted log rule in this State. Whichever rule is chosen, it should be a reasonably accurate estimate of the number of board feet that a skillful sawyer can actually saw from a sound, straight log, whether that log is eight inches, 18 inches, or 28 inches. If we had just one rule, then mill operators could state their specifications, grade their logs, and adjust their prices accordingly.

OF course the Conservation Law in New York provides that in the absence of a specific agreement to the contrary, the International rule shall be used. The logs in the photograph would total 1,040 according to International—a better break for the logger than Doyle or Scribner give, but still way short of the mill tally. Furthermore, International is not even intra-State, much less international.

Other states have seen the light and adopted a single log rule. Why not New York?

—HUGH FOSBURGH, *Cherry Plain*

We HAVE Pulpwood

by F. W. O'Neil

Professor, Pulp and Paper Manufacture, State College of Forestry

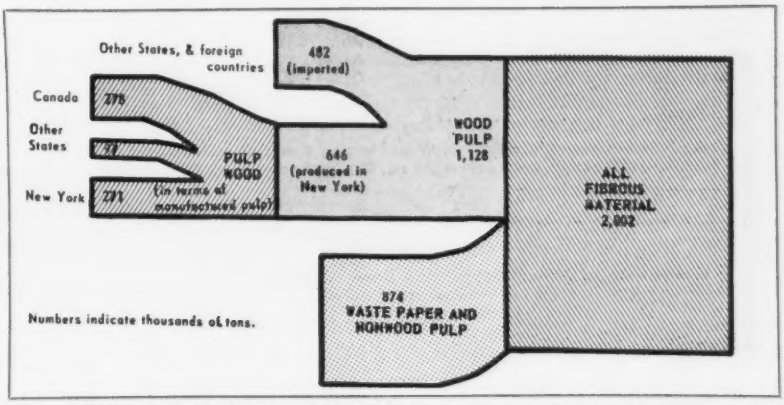
ALMOST everybody is aware that paper production has increased at a tremendous rate during the past 15 years. Surprisingly perhaps, not so many are aware that this increase in paper production has been achieved at the expense of a substantial overcutting of our forests. But the fact is that this overcutting has been far in excess of what natural reproduction can replace, with the result that throughout the United States we are rapidly depleting the available supply of coniferous (soft wood) trees that go into the manufacture of paper.

Even before this situation came to prevail on a nation-wide scale, it was apparent in New York. But even here, we still have forest stands which, if properly managed and properly used, would go far—if not all the way—toward achieving a balance in the supply and demand situation as it affects pulp and paper production. The forest stands we refer to—these are our hardwoods.

We should recognize at the outset that this State is both well located and well endowed in at least two of the essentials required for the manufacture of pulp and paper and paper board: we have an abundant supply of water and power, and we enjoy a proximity to large markets which is unsurpassed by any other state.

Why then, has the wood pulp production in this State decreased during the past few years? In 1911 we produced 24 per cent of the total pulpwood cut, whereas for 1927 the figure was only 6.1 per cent; and as far as wood pulp is concerned, by 1914 we had lost the lead in production to Maine, and since that time Wisconsin, Washington and Louisiana have also forged ahead of us. We have, however, retained our leadership in the production of paper and paper board—not because of the supply of pulp produced within the State, but because of the productive capacity of mills already established—established in the days when we could supply them with their wood requirements largely from our own forests. But now that has changed. We still have the mills, but the raw material which these mills use is now largely imported.

The graph above shows how heavily we rely on the importation of both pulpwood and wood pulp, the one being distinguished from the other by the fact that one is the raw material, the other the processed product. It will be seen from this illustration that our supremacy in the production of paper and paper board now depends largely upon the importation of pulpwood which, when processed, is the equivalent of 375,000 tons of pulp, and importation of 482,000 tons of pulp, and the utilization of 874,000 tons of waste paper and non-wood pulp. If you had to draw a single conclusion from these figures, it would be that our paper production is now largely dependent upon outside sources for raw material, and that our own forests are no longer supplying even a major part of this raw material.

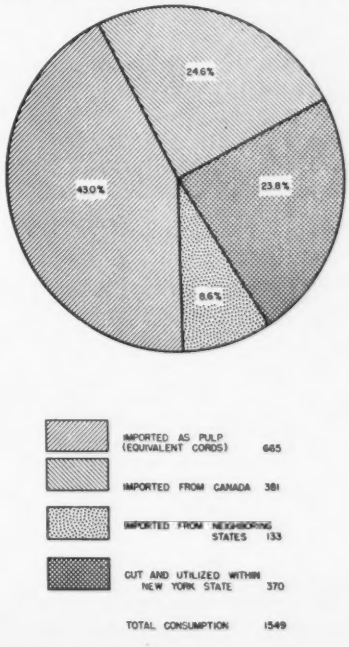


Sources of material consumed in manufacture of paper and paperwood in N. Y.

To document this thesis a little further: the wood used in the manufacture of pulp in our mills in 1947 amounted to 884,000 cords. Forty-three per cent of this came from Canada, 15 per cent from neighboring states and 42 per cent we produced ourselves. Adding it all up, you will see that we imported 58 per cent of our pulpwood. But in addition, we imported manufactured pulp which, before processing, amounted to 665,000 cords—178 per cent of our own production. Our own production amounts to only 370,000 cords, whereas the paper and paper board industry in this State consumes 1,549,000 cords. Again, these figures indicate that we are a long way from meeting our own needs.

This brings up the question of just what New York has in the way of wood supply. That's a difficult question to answer, but the Conservation Department has come up with the figures shown below:

Our pulpwood consumption in thousand cords



Present Forested Area	**13,500,000**	**acres**
Idle or Unproductive Forest Area	**4,000,000**	**"**
Present Old Growth Timber Area	**100,000**	**"**
Per cent hardwoods	**72**	
Per cent softwoods	**28**	

This information is put down in greater detail in Table 1, compiled from additional data supplied by the Northeastern Experiment Station for New York State and New England.

With these figures as an indication of what the available supply is estimated to be, we will now go on to see what the demand amounts to. According to the Northeastern Experi-

Table 1

Timber Volume in New England and New York, Status Beginning of 1945
Million Cords

Softwoods		Hardwoods	
Spruce and fir	103	Birch, beech and maple	248
White and Norway pine	40	Oak	30
Hemlock	28	Aspen	17
Other	7	Other	20
Total	178	Total	315

Trees 5 inches diameter breast high and larger; does not include bark. Converting factors: softwood, 1 cord equals 78 cu. ft.; hardwoods, 1 cord equals 65 cu. ft.

Table 2

Comparison of Annual Supply and Demand, Status Beginning of 1945
Thousand Cords

Item	Demand	Supply (Growth)	Surplus
Softwoods	5,754	6,499	695
Hardwoods	8,040	12,092	4,052
Total	13,794	18,591	4,747

Annual growth of all trees 5 inches diameter breast high and larger, including tops and limbs (tops only in softwoods) of saw timber, and total volume of trees reaching 5 inches diameter breast high each year. Bark not included.

ment Station, the manufacture of products from wood has an annual requirement of 13 million cords. But insect pests, diseases and fire use up an additional two million cords. Thus the total demand amounts to approximately 15 million cords annually.

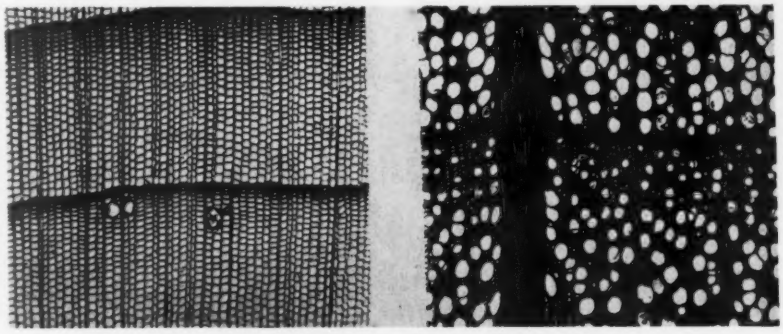
Table 2 indicates the relationship between supply and demand.

It will be seen that in the demand column, 42 per cent or 5.7 million cords are softwoods, while 58 per cent or 8 million cords are hardwoods. But if you follow the hardwood line across to the right, you will discover the most significant aspect of the table: the excess of supply over demand (four million cords). Why couldn't this excess of hardwoods be utilized to offset the heavy drain on our softwood supply?

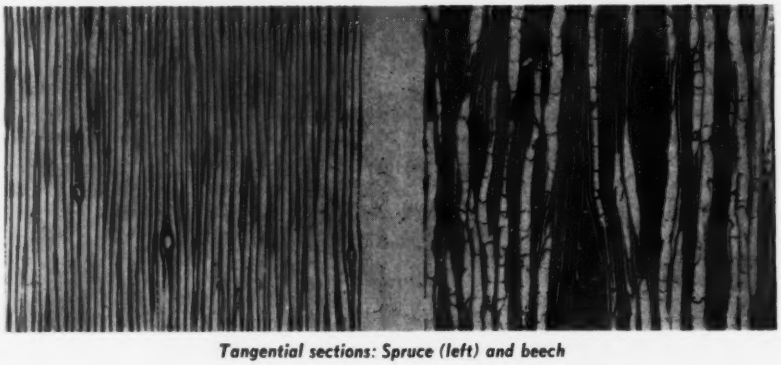
The bulk of these hardwood species consists of beech, birch, maple and aspen. These hardwoods are not only available right now, but due to past cutting practices, are tending more and more to become the prevalent species in our forests. In view of these facts, it appears only logical to assume that any forward looking industry, interested in protecting both its present investment and its future, should undertake steps to utilize these hardwoods to their best advantage.

Steps are now being taken in this direction. If a group of eastern paper manufacturers were asked what tree produced the best fiber for paper making, the majority would answer spruce. Suppose, however, that Zenias Crane had been asked to make paper from spruce fibers when he first started his mill in Dalton, Massachusetts. He probably would have said that it was impossible. Nevertheless, spruce is today the favored wood for paper making. Therefore, it doesn't seem unreasonable to suppose that the next step forward could be taken with equal ease—the step from spruce to hardwoods. In fact, I believe that the step from rags to spruce was a much more difficult one than will be the step from softwoods to hardwood—and the results probably even more significant.

At this point it would probably be advisable to explain certain outstanding differences between our hardwoods and, say, spruce. In general, hardwoods are considered to be those species having broad leaves which are shed each year, while softwoods (conifers) are those which have narrow leaves (needles) and retain them for several years. The name does not refer to the hardness or the softness of the wood itself. What is more important to the paper manufacturers, the two types can also be differentiated microscopically. The accompanying illustration shows cross sections of spruce and beech, as well as tangential sections of these species. The difference in fiber content is at once obvious; actually, the tracheids (fibers) occupy about 93 per cent of the total volume of spruce, whereas the total volume in the hardwoods is only about 66 per cent fibers, with 21 per cent vessel segments and the remaining 11 per



Cross sections: Spruce (left) and beech

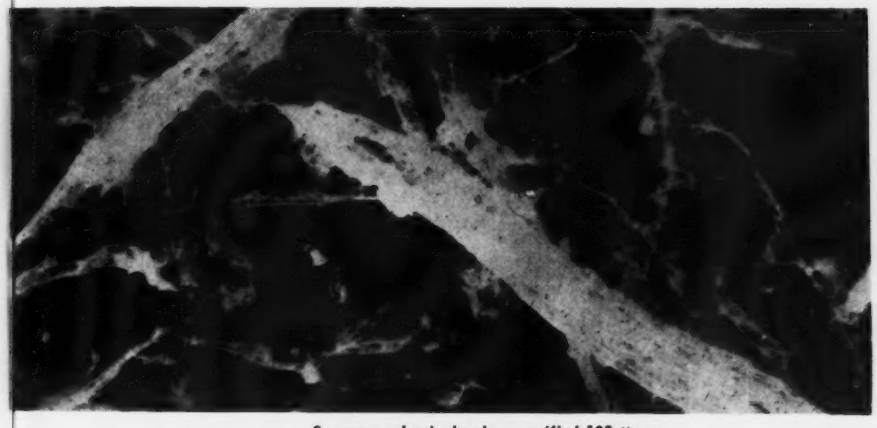


Tangential sections: Spruce (left) and beech

cent ray cells. This may be of no interest to you, but to the pulp men it is; what they want is the high percentage of fibers in spruce.

But fiber *length* also counts, as does thickness of the cell wall. These two factors govern within certain limits the ability of the liquor used in processing to penetrate the wood, as well as with average strength of the pulps and papers obtained from these woods. For example, the treating liquor penetrates rapidly through the canals provided by vessel segments of large diameter—a factor which influences the cooking schedule when wood is being reduced to pulp. As to thickness of the cell wall, this factor determines the stiffness or the flexibility of the fiberous element; the thinner the cell wall, the stronger the mat of fibers after processing.

Beech "chemigroundwood" magnified 100 times



Spruce mechanical pulp magnified 100 times

Fiber length is by far the most significant difference between the hardwoods and the softwoods. The average hardwood has fiber lengths less than one half those of spruce. This means that paper products manufactured from hardwoods may have a somewhat lower tearing strength.

On the other hand, hardwoods offer an advantage that no softwood has. They have very high densities. Approximately 40 per cent more wood per cord is available from such hardwoods as beech, birch and maple than from spruce. In these days of increasing wood costs, that is an advantage of tremendous significance.

But necessity has always been the mother of invention, and the shortage of softwoods has resulted in a good deal of study and experimentation with substitutes, particularly in Germany and Sweden. And right now Scandinavian pulps of high strength manufactured from beech and aspen are being used fairly extensively in this country.

Considerable research has also been done in this country. The Forest Products Laboratory in Madison, Wisconsin has pioneered in the development of the semi-chemical process for the production of high-field pulps from hardwoods, using a neutral sulphite liquor. The results of the investigations of this laboratory are available in their reports.

And right here in New York the Empire State Paper Research Assoc. Inc., in conjunction with the State College of Forestry, has also investigated the pulping of hardwoods by the semi-chemical process. The results have been excellent. Various liquors have been used, including soda, sulphate, sodium sulphite and bi-sulphite. The chips produced by this process can be treated in a disc refiner for use in paper grades ranging all the way from board to book and glassine.

The State College of Forestry has also been working on another angle—the development of a pulping process for the manufacture of high-yield mechanical pulp from hardwoods. This pulp, known as "chemigroundwood", is produced by grinding hardwoods on a conventional wood pulp grinder, after first treating the material under pressure in a digester. Test data concerning pulps produced from beech, birch and maple have indicated that this process has certain economical advantages. Probably the most important is the fact that in using this process, long individual fibers can be obtained from hardwoods without sacrifice of strength, production rate or yield. The photomicrographs on these pages indicate what is done with spruce and beech and what can be done in the mechanical pulping process.

There is something new in this process, although many mills have been producing satisfactory mechanical pulps from aspen for a number of years. Aspen, when treated by the chemiground process, has produced pulps with yields of 87 per cent, and with bursting and tearing strengths four times those obtained with pulps manufactured from untreated aspen.

CONSIDERING the study and research that has already been done with regard to the utilization of hardwoods in pulp and paper manufacture, and in view of the highly successful results that have been obtained, it seems entirely possible that our unused surplus of hardwoods could be converted into an economic asset of tremendous importance. The benefits to be derived from such a program are immediate and obvious from the point of view of our pulp and paper industry.

But the ultimate significance of finding a profitable use for unused types and species of trees now becoming more and more dominant in our forests would have a significance far beyond the interests of a single industry. It is perhaps not too much to suggest that if there were a ready market for our unused hardwoods, the entire forestry picture in this State as well as others might be revolutionized.

the life of a fish

THE story to be told from examination of the scales of a fish is similar, in some respects, to the story revealed by a cross section of a tree. There are important differences, however. The circular lines are not summer and winter bands. They are ridges, more comparable to the ridges which register when finger prints are taken. These microscopic ridges, called circuli, show every slight change in growth rate, for rapid growth of a fish causes wide spacing, while slow growth causes narrow spacing.

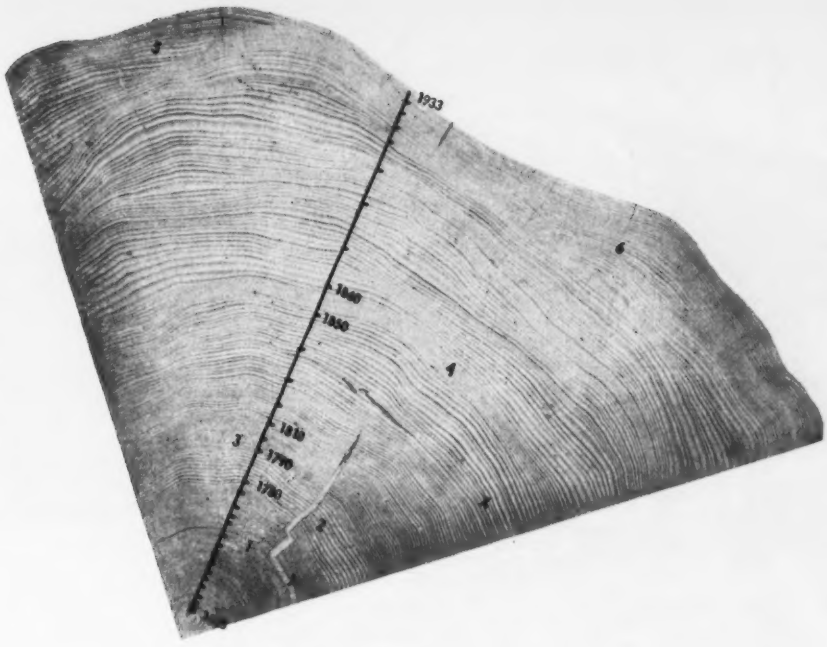
Like a tree trunk, a fish scale starts from a center of origin and expands outward. As it grows, a record of the life history of the individual fish is permanently marked by the circuli. Moreover, since the scale grows in direct proportion to the length of the fish, reasonably accurate calculation can be made to find the length of the fish at any special winter mark or other land mark on its scale, provided length of the fish at time of capture is known.

Let's follow the scale of a landlocked salmon, caught on July 17, 1933—the same year the hemlock (opposite page) was cut. The center of the scale (1) goes back to the year 1929 when scales first formed on a salmon fry in some tributary of Forked Lake. (As an egg, the fish actually dates back to the fall of 1928, but fry stage began the following spring.) Through its first year the little fish grew evenly but slowly, as the narrow spacing of the ridges indicates. At resumption of growth in the good feeding conditions of early spring (2), the little fish grew faster—as shown by the wider spacing. Again (3) cool weather slowed growth and winter stopped it entirely, with the fish at a calculated length 4¼ inches at the start of 1930. The next spring, however, was marked by a noticeable change in growth rate, as conspicuous widening of the ridges shows. Either more food was available or the little salmon moved from the nursery stream into the wide waters of its home lake, as is the habit of small salmon. At the third winter mark, 1931, the salmon had reached 9 inches, its third season having added more length than the previous two years combined. Steady progress at the faster growth rate continued for the next two years, the calculated lengths for the fish being 13¾ and 18½ inches at the fourth and fifth winter marks (1932 and 1933).

Until the fifth winter was practically upon it, the salmon had presumably devoted all its time to growth, but then its interest in the opposite sex suddenly became important. Adult male salmon have a hooked jaw and special thickening of the skin. These rapid changes involve an actual tearing down, by metabolic process, of the exposed part of the scale (4). The deeply imbedded part (5) is not changed. The actual absorption of a fraction of the scale makes a "spawning mark" (x) in the breeding season of the fall of 1932. Upon resuming growth the next spring, damage to the scale is repaired and new growth is made.

The individual variation in salmon growth rate is very great. The type of growth shown by this 19¾ inch male, weighing 2 pounds 13 ounces at capture, is relatively slow as compared to the average for most New York salmon waters.

—JOHN R. GREELEY



the life of a tree

THIS tree was a hemlock seedling in 1635 at Stockbridge, N. Y. It grew on the edge of a ravine on the East Hill under a dense canopy. Early in the tree's life (1), lightning or wind knocked down a few of the neighboring trees, giving it more light. It grew fast for the next three years, then the light was cut off by neighboring trees. For 155 years it grew under other trees, receiving just enough light to stay alive. Dense annual rings tell us this. During this time it grew 6 inches in diameter.

Something very important happened in 1780 (2). Perhaps a Colonist cut some of the surrounding trees for his log cabin, or a severe windstorm blew down some of the neighboring trees. Whatever it was, it left the hemlock in plenty of light. In the next 11 years, it grew $\frac{7}{8}$ inches in diameter. In 1791 (3) its neighbors again closed off the light, and for the next 24 years it grew only $\frac{5}{8}$ inches.

By 1815 wood cutting by the Colonists had reached the stand of hemlock in which this tree grew. A severe lumbering operation took place, but our 9-inch hemlock was too small for harvest. It had taken 180 years to grow this 9 inches. From 1851 on, however, the tree grew very rapidly, as indicated by its wider annual rings, until 1855 when it caught up with its neighbors. Here growth slowed, but in 1862 (4) either the tree outgrew its neighbors or another accident or cutting occurred to produce more light. Anyway, the tree began to grow faster; notice the annual ring spacing.

From 1815 to 1933 when it was cut, a period of 118 years, the hemlock added 8½ more inches to its diameter. At this time it was a stately 298-year-old hemlock with a diameter of 25 inches.

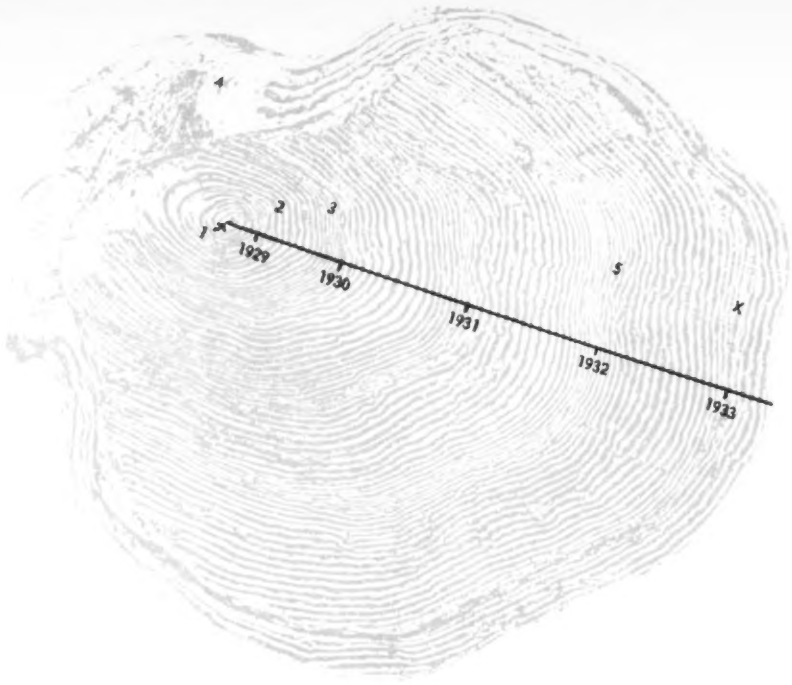
At (5) and (6) the hemlock produced more wood on the ravine side of the tree to brace itself against winds and the pull of gravity. These bulges also show that the tree was cut fairly low on the downhill side. Hemlocks on flat ground normally do not produce these bulges; they are almost perfectly round. At (x) you can see a very narrow annual ring. This was caused by a dry spell. Uniform annual rings of narrow calibre all around the tree indicate dry spells which occur at times.

At (7), a crack in the section is filled with plastic wood. To prevent this cracking or "shaking" (as noted by the black lines) boil your section of tree in a solution of one pound of sugar per gallon of water. Boil 8 hours for each inch of thickness. Allow to dry, sand, then shellac or varnish.

We have some other sections of hemlocks that tell interesting tales too. One is a 55-year section 1 inch in diameter. Another is a 3-inch diameter hemlock of 44 years. And still another is a 24-inch diameter hemlock of 55 years, proving that ideal light and stand conditions provided by good forest management pay dividends. This 55-year-old tree produced as much wood as the 298-year-old hemlock and illustrates what happens under proper conditions.

All of which shows that one cannot judge the ages of hemlocks merely by comparing their diameter sizes; one must also know something about the conditions under which they grew. Finally, to be certain, one's gotta cut the tree down to count the annual rings.

—Nick Drahos



the life of a fish

THE story to be told from examination of the scales of a fish is similar, in some respects, to the story revealed by a cross section of a tree. There are important differences, however. The circular lines are not summer and winter bands. They are ridges, more comparable to the ridges which register when finger prints are taken. These microscopic ridges, called circuli, show every slight change in growth rate, for rapid growth of a fish causes wide spacing, while slow growth causes narrow spacing.

Like a tree trunk, a fish scale starts from a center of origin and expands outward. As it grows, a record of the life history of the individual fish is permanently marked by the circuli. Moreover, since the scale grows in direct proportion to the length of the fish, reasonably accurate calculation can be made to find the length of the fish at any special winter mark or other land mark on its scale, provided length of the fish at time of capture is known.

Let's follow the scale of a landlocked salmon, caught on July 17, 1933—the same year the hemlock (opposite page) was cut. The center of the scale (1) goes back to the year 1929 when scales first formed on a salmon fry in some tributary of Forked Lake. (As an egg, the fish actually dates back to the fall of 1928, but fry stage began the following spring.) Through its first year the little fish grew evenly but slowly, as the narrow spacing of the ridges indicates. At resumption of growth in the good feeding conditions of early spring (2), the little fish grew faster—as shown by the wider spacing. Again (3) cool weather slowed growth and winter stopped it entirely, with the fish at a calculated length $4\frac{1}{8}$ inches at the start of 1930. The next spring, however, was marked by a noticeable change in growth rate, as conspicuous widening of the ridges shows. Either more food was available or the little salmon moved from the nursery stream into the wide waters of its home lake, as is the habit of small salmon. At the third winter mark, 1931, the salmon had reached 9 inches, its third season having added more length than the previous two years combined. Steady progress at the faster growth rate continued for the next two years, the calculated lengths for the fish being $13\frac{3}{4}$ and $18\frac{1}{2}$ inches at the fourth and fifth winter marks (1932 and 1933).

Until the fifth winter was practically upon it, the salmon had presumably devoted all its time to growth, but then its interest in the opposite sex suddenly became important. Adult male salmon have a hooked jaw and special thickening of the skin. These rapid changes involve an actual tearing down, by metabolic process, of the exposed part of the scale (4). The deeply imbedded part (5) is not changed. The actual absorption of a fraction of the scale makes a "spawning mark" (x) in the breeding season of the fall of 1932. Upon resuming growth the next spring, damage to the scale is repaired and new growth is made.

The individual variation in salmon growth rate is very great. The type of growth shown by this $19\frac{3}{4}$ inch male, weighing 2 pounds 13 ounces at capture, is relatively slow as compared to the average for most New York salmon waters.

—JOHN R. GREELEY

the life of a tree

THIS tree was a hemlock seedling in 1635 at Stockbridge, N. Y. It grew on the edge of a ravine on the East Hill under a dense canopy. Early in the tree's life (1), lightning or wind knocked down a few of the neighboring trees, giving it more light. It grew fast for the next three years, then the light was cut off by neighboring trees. For 155 years it grew under other trees, receiving just enough light to stay alive. Dense annual rings tell us this. During this time it grew 6 inches in diameter.

Something very important happened in 1780 (2). Perhaps a Colonist cut some of the surrounding trees for his log cabin, or a severe windstorm blew down some of the neighboring trees. Whatever it was, it left the hemlock in plenty of light. In the next 11 years, it grew 3 inches in diameter. In 1791 (3) its neighbors again closed off the light, and for the next 24 years it grew only ¾ inches.

By 1815 wood cutting by the Colonists had reached the stand of hemlock in which this tree grew. A severe lumbering operation took place, but our 9-inch hemlock was too small for harvest. It had taken 180 years to grow this 9 inches. From 1851 on, however, the tree grew very rapidly, as indicated by its wider annual rings, until 1855 when it caught up with its neighbors. Here growth slowed, but in 1862 (4) either the tree outgrew its neighbors or another accident or cutting occurred to produce more light. Anyway, the tree began to grow faster; notice the annual ring spacing.

From 1815 to 1933 when it was cut, a period of 118 years, the hemlock added 8½ more inches to its diameter. At this time it was a stately 298-year-old hemlock with a diameter of 25 inches.

At (5) and (6) the hemlock produced more wood on the ravine side of the tree to brace itself against winds and the pull of gravity. These bulges also show that the tree was cut fairly low on the downhill side. Hemlocks on flat ground normally do not produce these bulges; they are almost perfectly round. At (x) you can see a very narrow annual ring. This was caused by a dry spell. Uniform annual rings of narrow calibre all around the tree indicate dry spells which occur at times.

At (7), a crack in the section is filled with plastic wood. To prevent this cracking or "shaking" (as noted by the black lines) boil your section of tree in a solution of one pound of sugar per gallon of water. Boil 8 hours for each inch of thickness. Allow to dry, sand, then shellac or varnish.

We have some other sections of hemlocks that tell interesting tales too. One is a 55-year section 1 inch in diameter. Another is a 3-inch diameter hemlock of 44 years. And still another is a 24-inch diameter hemlock of 55 years, proving that ideal light and stand conditions provided by good forest management pay dividends. This 55-year-old tree produced as much wood as the 298-year-old hemlock and illustrates what happens under proper conditions.

All of which shows that one cannot judge the ages of hemlocks merely by comparing their diameter sizes; one must also know something about the conditions under which they grew. Finally, to be certain, one's gotta cut the tree down to count the annual rings.

—NICK DRAHOS

FIRE

THE hiker's fire, left unextinguished after his exploratory visit to the beaver pond, smouldered for hours, nearly went completely out during the night, but came to life when fanned by a wee hour breeze. He had cleared a space down to mineral soil but not enough. A spark snapped over into the dry duff and gave birth to a conflagration. This was back in, off a dirt road, so its spread wasn't noticed in the early morning hours. However, with daylight it could remain hidden no longer from observers in the Department's fire towers.

"Prospect to Spruce!" crackled through the ether. "What's that smoke down your way?" (All tower units are called by name.)

"Spruce to Prospect. Direction please? Not immediately seen."

"To the northeast of you, Spruce. There. Smoke's rising higher now." (Sometimes intervening hills hide a smoke from a tower close to it; in this case the tower further away had a better view.)

"I got it now Prospect. What do you read it?"

"I get it at 195. What do you read it, Spruce?"

"I read it 56 from here."

"Hadley to Prospect and Spruce towers."

"Come in Hadley. This is Prospect."

"Go ahead, Hadley. This is Spruce."

"Hadley on. Just spotted the smoke you're talking about. I read it 132 from here."

"Okay, Hadley. This is Spruce. I'll take it. It's closest to me."

"Okay, Spruce. Hadley out."

"Right, Hadley. Prospect continuing with Spruce. That brings it about on Beaverdam Brook, doesn't it Spruce?"

"Check, Prospect. I'll get 'Mac' on it right off."

While Spruce is summoning the Ranger, let's digress to explain this "reading" business. Atop his tower the Observer has a round, glass-covered map-table with map oriented to the terrain. An alidade, or sighting bar, is pivoted to its center. Edges of the map are marked in degrees. By sighting along the alidade and noting the degree on the azimuth, the Observer knows exactly the direction of the fire from his tower. He either gives this to a Ranger or another tower. If to the Ranger, the Ranger refers to his map; it is similar to the Observer's except that it shows the location of perhaps a half dozen fire towers in the district. Each station has a circle drawn around it and is marked off in degrees like the tower maps. In the center of each circle is affixed a long piece of string which serves much the same purpose as the Observer's alidade. The Ranger merely pulls the string tight and cuts the circle at the degree given him by the Observer. By the time he has done this another Observer has given him the degree from *his* tower; the Ranger notes where the strings intersect and there's the location of the fire. If towers have swapped readings, the location is passed on to him.

"Spruce Tower calling Eleven-Three. Spruce Tower to Eleven-Three. Come in, please." (Mobile and office units are called by number; number assignments are made according to districts. Eleven is the district, three identifies the Ranger and his truck or car.)

"Spruce to Eleven-Three. . . ."

"Eleven-Three to Spruce. You're mighty early boy, what's up?"

"Spruce to Eleven-Three. Smoke at 56 from here, 195 from Prospect. Hadley checks it at 132 from him."

"Eleven-Three to Spruce. Smoke at 56 from you, 195 from Prospect and 132 from Hadley. Hmm. Brings it about Beaverdam Brook. Right?"

"Spruce to Eleven-Three. Right. That's what Prospect and I make it. Rolling hills. Sandy and gravelly there. Part pine. Part birch. Lot of reverted acreage in area."

"Eleven-Three to Spruce. Yes, I know the section."

At this point there is an unexpected interruption:

TOWER TALK

"Cornell to all stations. Lime sowers at Greenwich." (The clouds of dust raised by lime sowing contractors had been giving the towers and Rangers some searching moments; from a distance, the dust looks like smoke. They had overcome the difficulty by learning the contractors' schedules and notifying the area towers and Rangers where the contractors were operating, thus eliminating investigations. Regular smoke such as industrials, dumps, etc. are cataloged and ignored.)

"Eleven-Three to Spruce Tower. I'm getting closer. It's back in. I may have to leave the truck and walk in."

"Spruce Tower to Eleven-Three. I can't read you. Maybe Cornell can read you better."

"Cornell to Spruce. He said he was going to have to walk in, he thinks. He's getting closer." (Sometimes the Ranger truck gets down behind a hill and communication with the tower is cut off. Then the relay system is used. Similarly, it works between crews, and between crews and towers.)

"Hadley to Spruce to Eleven-Three. Have sighted Plane at 300 from me. Might query him, either of you."

"Spruce to Hadley. Thanks, Hadley. Spruce to Cornell. Did you read Hadley just then?"

"Cornell to Spruce. Okay. Want me to relay to Eleven-Three? He may not be out of that hole yet."

"Spruce to Cornell. Yes, please."

"Cornell to Eleven-Three. Did you happen to read Hadley about Plane at 300 from him?"

"Eleven-Three to Cornell. Yes, I got it. Will do."

"Eleven-Three to Plane. Can you read me? Eleven-Three calling Plane."

"Plane to Eleven-Three. How come you're up so early, boy? Got you on that smoke over there?"

"Eleven-Three to Plane. I read you. Check. Can you tell me which side of beaver pond?"

"It's west, Eleven-Three. Think you're going to need help; it's wide."

"Roger, Plane. Eleven-Three to Spruce. Can you read me now. I'm out in the open. Lucky break for us. Plane is one of our patrols."

"Spruce to Eleven-Three. Right. I read you and read Plane."

"I'm going in now, Spruce. Will take a quick look around and let you know."

"Eleven-Three to Spruce. Spruce, this is more than I can handle, as Plane predicted. It's going to get hot if it should crown off in anything."

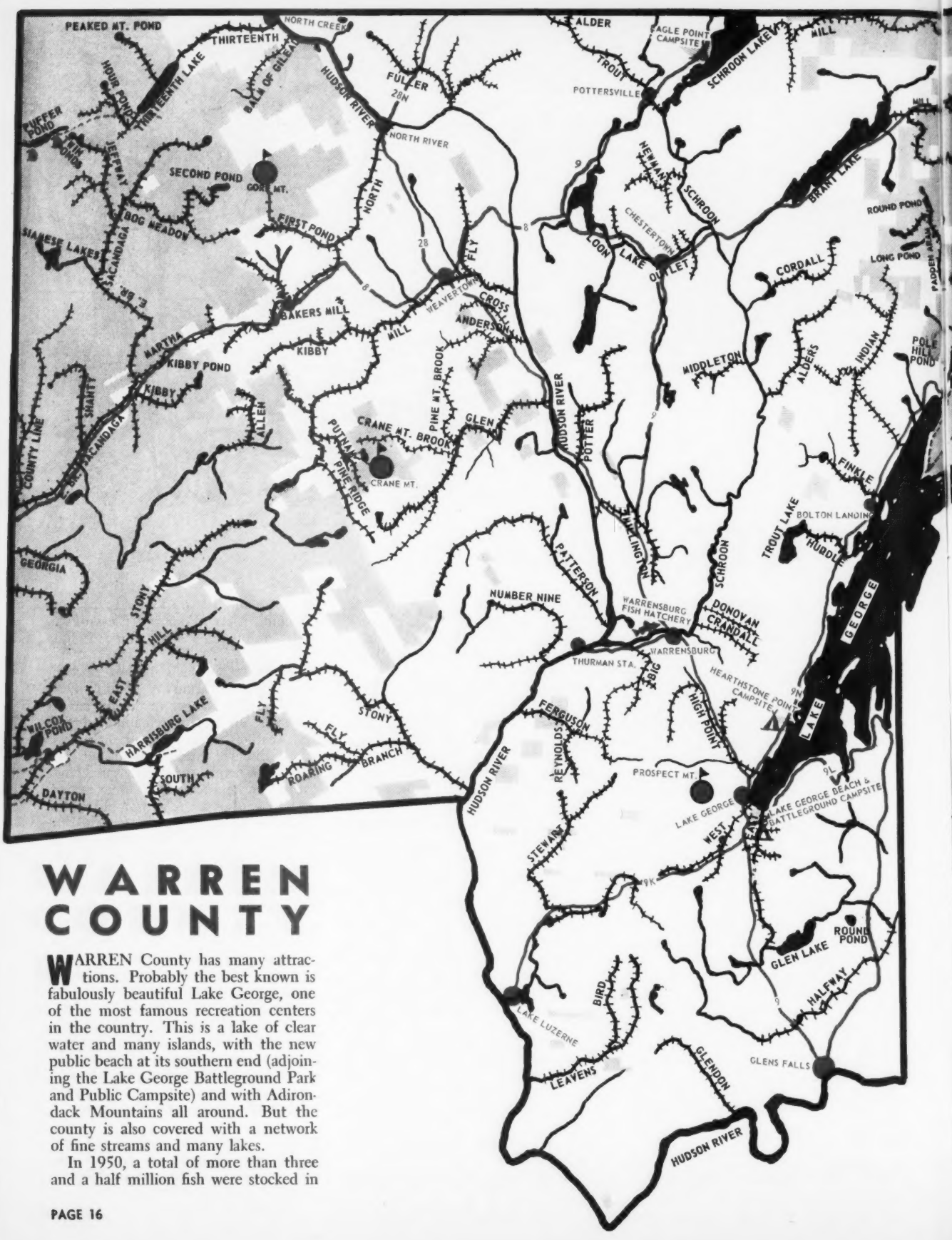
"Plane to Eleven-Three. Circling location. It might crown if it gets into that batch of pine up ahead of you. Standing by."

"Eleven-Three to Plane. Thanks. Will watch. Eleven-Three to Spruce. Summon Eleven-Four and Eleven-Five. Tell 'em to fetch along three or four men each. . . ."

The value of such method of two-way communication is almost incalculable. The Ranger no longer has to sweat it out by his telephone during fire weather; he can be out on patrol, often discover fires himself and put them out before they really get going. Or he can be attending to other duties. Just so long as he is within earshot of his car or truck set, he can be called by tower or other unit. As we've tried to show, he talks to towers and planes. He summons extra help, equipment and supplies, even orders up food if it's going to be a long hard fight. He no longer relies entirely on his telephone; similarly, those back at his home or office are relieved of standing by while he's out. There are no more of those seemingly interminable silences on Ranger and tower 'phone lines.

Seventy-five new units will increase the volubility of the forest fire fighting system by next spring, adding cogs in our machinery of forest fire control to combat the additional hazard created by last November 25's Big Blow.

IT'S a comfortable feeling to have the extra ammunition in the belt.
—ROLAND B. MILLER



WARREN COUNTY

WARREN County has many attractions. Probably the best known is fabulously beautiful Lake George, one of the most famous recreation centers in the country. This is a lake of clear water and many islands, with the new public beach at its southern end (adjoining the Lake George Battleground Park and Public Campsite) and with Adirondack Mountains all around. But the county is also covered with a network of fine streams and many lakes.

In 1950, a total of more than three and a half million fish were stocked in

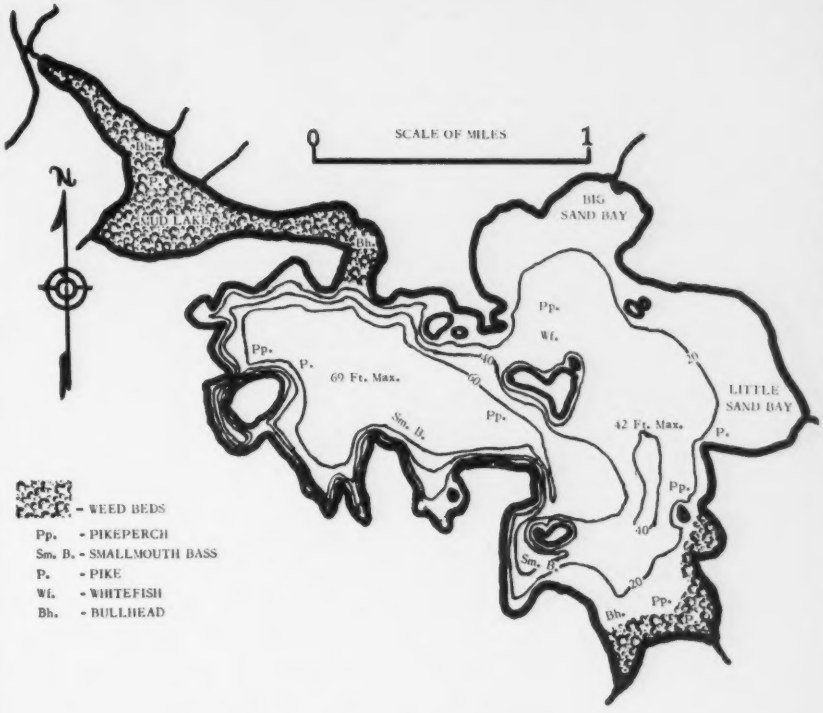
the streams, ponds and lakes of this county; only those receiving more than 500 fish are named on the map. Trout totaled more than 297,000; salmon (landlocked, Atlantic and red) over 72,500.

In addition to the public campsites on Lake George and Schroon Lake, free camping and picknicking is to be had on the State-owned islands in Lake George. For details write the Albany office for "Adirondack Campsites" and "Lake George" bulletins.

Nearly all the county is inside the Adirondack Park "Blue Line", and all State-owned land is open to public hunting, fishing and other forms of outdoor recreation. (For map of closed areas, see page 30). But everyone is urged to take extreme care to prevent starting any forest fires because of the unusually serious fire hazards.

—Fred Everret

LAKE BONAPARTE



PHYSICAL FEATURES

Area: 1,280 acres
Elevation: 768 feet
Maximum Depth: 69 feet
Length: 2.4 miles
Greatest Depth: 1.5 mile
Oxygen: Good all depths
Water: Hard

FISHING

Pikeperch: Trolling June bug spinner, worms good all season; some still fishing; deep water along edges, weed beds, rocky shoals best
Smallmouth Bass: Plugging along rocky shorelines good
Pike: Plugging, trolling around weedy areas good
Bullheads: Good spring, fall with worms

LOCATION

North central Lewis County

HISTORICAL

Named after Joseph Bonaparte (brother of Napoleon I) who acquired extensive lands around lake in 1825

GENERAL

Numerous private camps around lake; hotel and camps for rent offer accomodations for visitors; boats and bait available; good swimming in sand bays

STOCKING

Pikeperch fry annually

FISHING GROUNDS AND FISH

Species	*Abundance*	*Average Size*
Pp-Pikeperch	Common	4 lbs
SmB-Smallmouth Bass	Common	1 lb
P-Pike	Abundant	3 lbs
Wf-Whitefish	Common	1½ lbs
BhC-Bullhead	Abundant	2 lbs
RB-Rock Bass	Abundant	6 in
YP-Yellow Perch	Common	6 in
CmS-Common Sunfish	Common	5 in
L-Ling	Common	2 lbs
- - Minnows	Rare	—

Pileated Woodpecker

By David Allen, *Cornell University*

FIFTEEN years ago I used to beg rides to the country in hopes of seeing a pileated woodpecker and thereby earning the gold star on the school bird chart. I never got that gold star, because pileated woodpeckers (or "logcocks" as some people call them) were scarce in those days.

But times have changed. Last spring, about the last week in April, I tapped a ball into the woods off the 7th tee at the Cornell golf course and suddenly discovered an unusual incentive for chasing it, for there, right in front of me, was a red-crested black bird as big as a crow, with a white stripe up his neck, sitting back on his tail feathers and letting a white pine tree have it as I could never do even with my best golf slice. From then on I figured that there was really something to what the late Dr. Hoyt said about a pair of pileateds to every good sized woodlot.

Well, about two weeks later I was tramping through the skunk cabbages along a trout stream in the Finger Lakes Region and heard what I thought was a swarm of bees. But I looked up and found that I was standing against a tree where a pileated woodpecker had its nest, and the "bees" were just the young begging for food. This nest was only about 15 feet from the ground, although some are as high as 60 feet. I shinnied up to the nest hole and slipped my hand down into the cavity and soon had five squirming half-feathered woodpeckers nuzzling at my fingers.

I lifted one of them out for a close look. Only a mother could have loved it. It had bulging eyes, a fat belly, a long skinny neck, and a hammer head. Already it had the typical chisel-like bill.

While I was doing my snooping, I could hear both of the old woodpeckers calling back and forth, and I soon spotted the male bird. I could tell it was the male because he had the red mustaches on his face and his red crest extended over his forehead. (The female has black mustaches, with a dark gray forehead.) Both male and female have wedge-shaped bills for cutting wood, stiff tail feathers to aid them in climbing, and two toes directed forward and two backward. Even at a distance the pileated is easy to identify. If you see a bird as big and as black as a crow, with white patches under its wings, flying like he's got a bad case of hiccups, you've spotted a pileated.

The male that I was watching was working on a white pine at a point about four feet above the ground. He had chopped out a hole some four or five inches long and more than two inches deep, and at the bottom of this cavity (I looked it over after the bird had left) could be seen the burrows of carpenter ants that were eating the heart out of the tree. Right then and there I realized why this bird is one of the forester's best friends. His main food is carpenter ants—which attack the heartwood of trees and so weaken them that the first heavy storm will most likely snap them off. We don't have many birds as co-operative as that.

Pileated woodpeckers lay from three to five glossy white eggs which hatch about 18 days later. But they don't all hatch at the same time, so there's considerable confusion in the woodpecker home from day to day while the hatching process is going on. The youngsters stay in the nest for about 23 days. When they finally get out of it they stay in a family group for about three weeks and continue to be fed in the same curious way that the old birds used for the nestlings—regurgitating ants into the mouths of the young. Thereafter, they start digging out their own carpenter ants.

Probably the best time to observe pileateds is during the first three weeks after the young leave the nest. The old birds are especially vocal at this time, their call sounding quite like that of the northern flicker except that it is lower in pitch and much more resonant. But since these birds do not migrate, they can be found in the same locality the year round, although they do range in winter two or three miles in all directions from the roosting tree to which they return each night.

A LOT of people have misguided ideas about the pileated woodpecker. The most common fallacy is that he kills trees by drilling into them. Nothing could be farther from the truth: he drills for the insects that *really* are killing the tree, and even if he weren't beautiful and comparatively rare (which he is), his appetite for carpenter ants alone would be enough to warrant his protected status.

Dividends in Ducks

NEW YORK PLANS FOR THE FUTURE

HUNTERS want more ducks; they must have more ducks if they are really to enjoy better hunting. We in New York are convinced after a long and careful study of the present problem that we have a sound plan which will produce the large numbers of additional waterfowl needed to provide better duck hunting.

It's not something you can get for nothing; neither is it possible in a day. It will take just so long as is necessary to get everyone in our flyway who is interested in ducks to make a coordinated effort along the lines suggested below. By everyone, we mean every agency—federal, state and private—interested in ducks and good land use; we also mean game clubs, individual groups of sportsmen, bird lovers and most important of all—the landowners.

You might well assume that to create such a pleasant waterfowl situation would require something complex and mystifying. To the contrary, the ducks themselves long have been pointing out a very simple, fundamental prescription right under our respective noses, and we in New York intend to pay attention and apply it. It is the purpose of this article to set forth New York's plan for a brighter waterfowl future so there may be full understanding and support. No conservation program which lacks that sort of backing can succeed.

The program divides itself into two parts: (1) better management and utilization of present basic waterfowl populations, and (2) establishment of new waterfowl breeding territory to produce still more ducks.

As a foundation for its program, New York has made a careful investigation of waterfowl behavior in this State. Involved have been aerial censusing of waterfowl populations, duck banding, detailed regional studies of environment and population behavior which are still in progress, pathological examinations and appraisals of stocking and other management practices. Flyway biologists have flown a total of 135,000 miles in the past five years, and counted upwards of 900,000 waterfowl (not including scoters or sea coot) annually; 32,895 ducks have been banded since 1945, and three-fourths of the waterfowl range of the State has been analyzed in detail.

The banding studies largely have involved marsh ducks, principally blacks and mallards. It has not yet been possible in New York to trap and band large numbers of scaup (bluebills or broadbills). As a result, banding data on those species is insufficient for discussion, but further efforts will be made to get the answers.

Of 10,640 wild black ducks banded in New York in the years 1946-49 alone, 1,131 bands (10.6 per cent) have been returned, 636 of them (56.2 per cent of total returns) during the first year following banding. For birds banded at up-state (mainland) stations, about 44 per cent of all recoveries by hunting came from within the State and nearly 90 per cent of in-state records were of recoveries made within 25 miles of the station. For Long Island birds, about 68 per cent of all recoveries by hunting came from within the State, and also from the vicinity of the banding station.

With respect to wild mallards, sufficient records are available only from up-state banding stations. Of 2,335 banded in '46-'49, 264 bands (11.3 per cent) have been returned, 171 (or 64.8 per cent) in the first year. Forty-seven per cent of all the recoveries by hunting came from within the State, and roughly 80 per cent of the in-state recoveries were made within 25 miles of the banding stations.

Analysis of this banding data has revealed the extent of the areas in which most of New York's marsh ducks travel—in other words, their primary ranges (shown on accompanying maps). The maps clearly show the Long Island marsh ducks and the upstate marsh ducks are separate populations with distinctly different ranges.

All agencies concerned with waterfowl must have both a complete understanding of—and a uniform program for—the ducks involved in these two ranges if there is to be better management as well as better utilization of those populations—and there must be. The agency for the promotion of this understanding and program already exists and is at work. This is the Joint Waterfowl Committee of the Atlantic Flyway, on which are represented state, federal and private agencies concerned with ducks in our region.

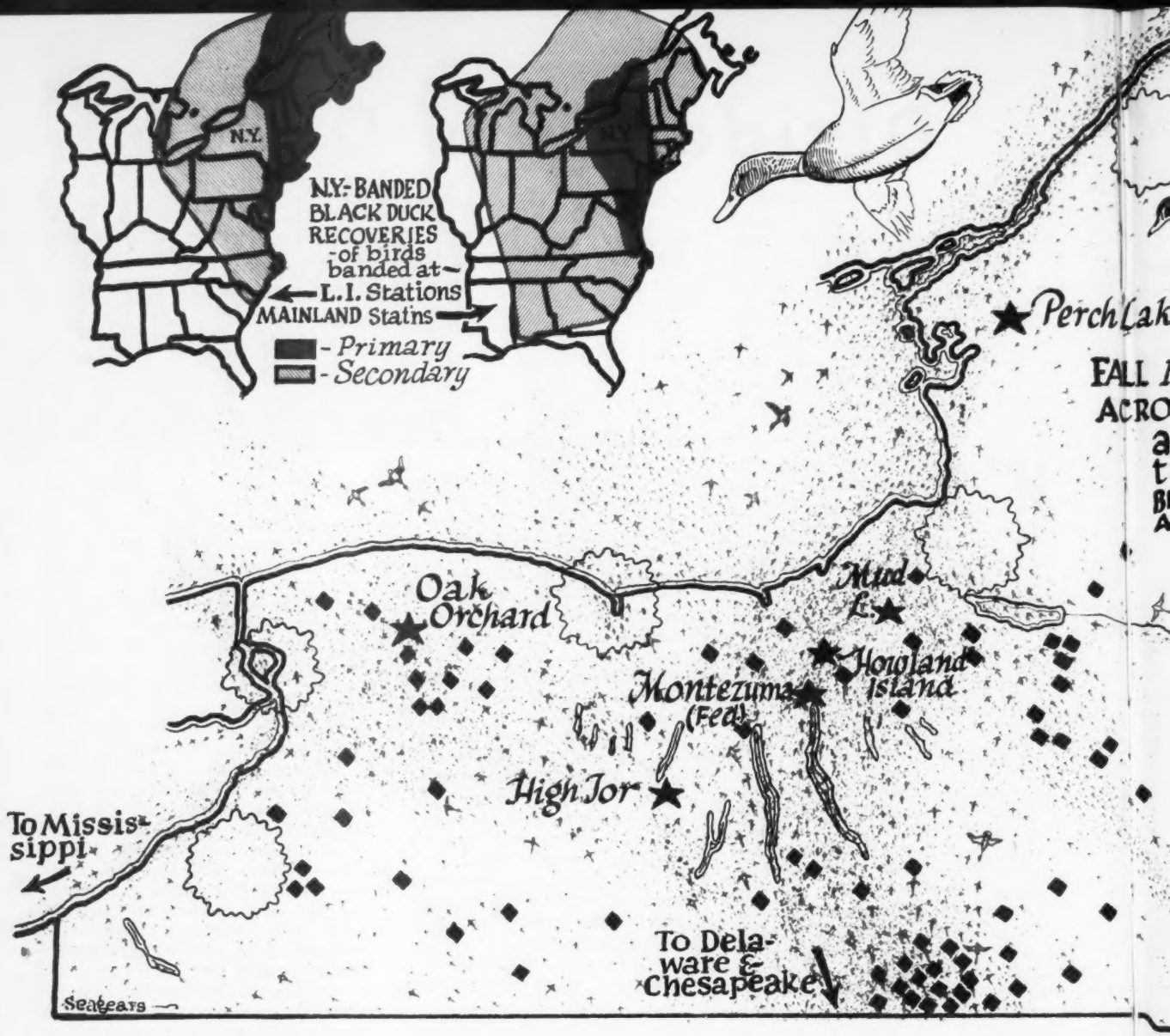
A REAL WATERFOWL PROGRAM

As a result of several years of painstaking work devoted to field studies of the waterfowl which breed in, or migrate through our State, and as a result also of experiments which show what can be done in a practical way to increase waterfowl abundance, it is now possible to chart a real waterfowl program.

The accompanying article, the first in a series of two, discusses our waterfowl problem and what can be done to improve the management of the waterfowl we now have. The second, to appear in the next issue, will outline a program which will actually increase our waterfowl territory and the waterfowl produced here.

These articles merit the careful study of our hunting fraternity and everyone interested in waterfowl conservation.

—Perry B. Duryea,
Commissioner



To get the greatest possible production out of present populations requires first of all an annual return of an adequate supply of ducks to occupy existing nesting territories. It has not been accomplished by the pattern of hunting regulations to date, but they can be improved to contribute to it.

In this regard, to protect local breeding populations which are so important to the future, no season should be permitted to start in any part of the range before migrant birds arrive in peak abundance. This diffuses local birds and reduces their vulnerability to first day gunning.

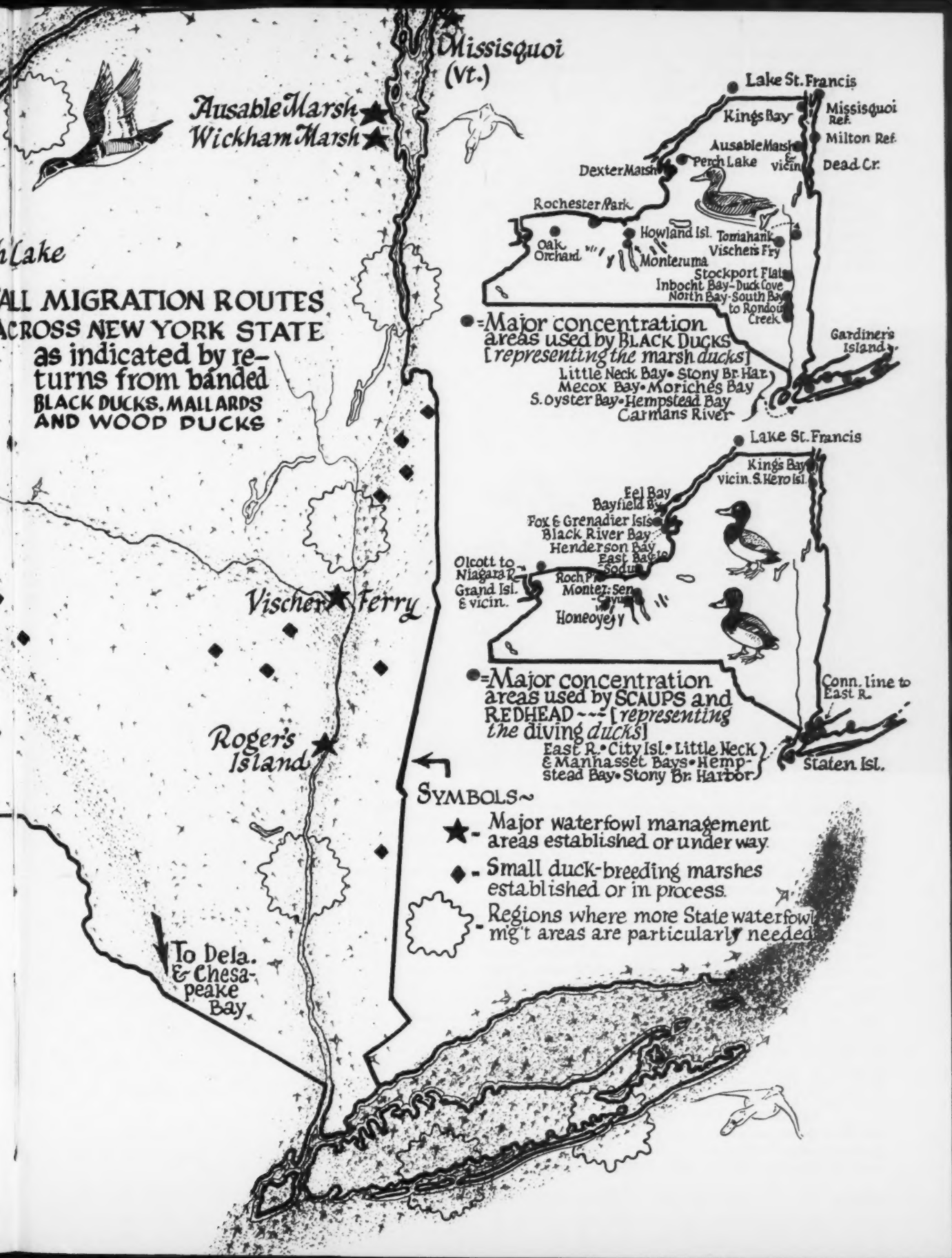
As for local hunting the data clearly indicates that seasons for Long Island should be considered separately from the rest of the State, and in relation to the northeasterly range in which Long Island is a major wintering ground. Seasons for the mainland should be established on the basis of their relationship to the more westerly and southerly range of which it is a part. It is assumed that gunning opportunity should be as equitable as possible everywhere. This would call for variations in the types of seasons provided.

But because hunting regulations alone can never be refined to a point where they keep up with changing gunning pressure, another device is needed. (These days, gunning pressure can shift as fast as hunters can move to a new area, and that's fast!) It seems very clear that what is called for is a pattern of waterfowl management areas down through each range, capable of operating variously as refuges and public shooting grounds. This would prevent various segments of the duck population from being excessively gunned, and thereby permit an adequate return of breeding birds to the nesting grounds each year.

Don't pass up this idea, for there are many breeding spots across the northern part of our country without nesting ducks, their populations having been burned off by unwise gunning in the past.

Management areas. (made up of refuges and public hunting grounds)

(Continued on page 22)


Missisquoi (Vt.)
Ausable Marsh
Wickham Marsh
Lake
ALL MIGRATION ROUTES ACROSS NEW YORK STATE as indicated by returns from banded BLACK DUCKS, MALLARDS AND WOOD DUCKS
Lake St. Francis
Kings Bay
Missisquoi Ref.
Milton Ref.
Ausable Marsh & vicin.
Dead Cr.
Perch Lake
Dexter Marsh
Rochester Park
Howland Isl.
Tomahank
Vischers Fry
Oak Orchard
Monteruma
Stockport Flats
Inbocht Bay-Duck Cove
North Bay-South Bay to Rondout Creek
●=Major concentration areas used by BLACK DUCKS [representing the marsh ducks]
Little Neck Bay • Stony Br. Har.
Mecox Bay • Moriches Bay
S. Oyster Bay • Hempstead Bay
Carmans River
Gardiner's Island
Lake St. Francis
Kings Bay
vicin. S. Hero Isl.
Fel Bay
Bayfield Bay
Fox & Grenadier Isls.
Black River Bay
Henderson Bay
Olcott to Niagara R.
Grand Isl. & vicin.
Honeoye
Vischer Ferry
Roger's Island
●=Major concentration areas used by SCAUPS and REDHEAD ~~~ [representing the diving ducks]
East R. • City Isl. • Little Neck & Manhasset Bays • Hempstead Bay • Stony Br. Harbor
Conn. line to East R.
Staten Isl.
SYMBOLS~
★- Major waterfowl management areas established or under way.
◆- Small duck-breeding marshes established or in process.
- Regions where more State waterfowl mg't areas are particularly needed.
To Dela. & Chesapeake Bay

should be operated flexibly to give additional protection during periods of duck declines, and more gunning opportunity in periods of surplus. Habitat improvement to make them more attractive and also to increase their carrying capacity should be practiced through control of water levels and vegetation.

Here's an example from New York banding data which shows why the refuge pattern is important. There are more returns of black duck and mallard bands after the first year (adult birds killed) from the wintering grounds than from the migration route. (They are about the same the first year.) This is not because of a change in flight habits, for these birds are being retrapped at banding stations in New York. It could well indicate the need for more refuge areas in the South to insure a greater return of adults to the breeding grounds and thus more ducks for everyone—including southern hunters—in subsequent years.

These management areas, to be effective, must be at major waterfowl concentration areas during fall migration. In New York, these key spots have been located by airplane censusing which, along with banding data, outlines the important migration routes down through the State (concentration areas and State flyways shown on maps). The necessary pattern of these major waterfowl management areas in New York (see map) has been built on this information. These areas will be operated both as refuges and public shooting grounds. They will act not only for the benefit of migrant birds from the North, but also for local breeding populations which will become increasingly important in New York's program.

Nine areas already are in existence. The newest is at Howland's Island, which has been operating as a game farm but which is now being entirely converted to a waterfowl management area. Three new marshes will be built there to add to the present pond layout. The old ponds will be used for a special study to determine how best to handle water levels so as to secure good growth of the aquatic plants used by ducks.

Development work has just been completed at Vischer's Ferry. Major impoundment work at Oak Orchard was finished several years ago but some additional development to get full utilization of all water areas now is being planned. Scheduled for next year under present plans are development of the Perch River area adjacent to Perch Lake, and the Ausable and Wickham marshes on Champlain. Plans for additional work at other existing areas are now being drafted. The complete establishment of the ten additional waterfowl management areas will take some time, but a definite course of action has been charted.

To provide field laboratories for cooperative waterfowl research on problems of the Atlantic Flyway by Cornell and other universities, and for the Department's own investigations of day-to-day duck management problems, stations patterned after the Delta Waterfowl Research Station of the American Wildlife Foundation at Delta, Manitoba, are planned at Oak Orchard and Perch River. In addition, facilities for specialized studies will be set up for the Champlain-Hudson and Long Island areas to handle the problems of these separate flyway segments.

New York's aerial censusing of ducks not only has supplied information for the proper establishment of management areas. It has also produced the data on peak periods of waterfowl abundance needed to guide the selection of opening dates that will protect local breeding populations. In upstate New York, considered as a single region, the marsh ducks are at their height of abundance in late October and diving ducks in mid-November. (There are exceptions for diving ducks, notably Seneca Lake and the Niagara River, where peaks come in December.) On Long Island, both groups reach a high level of abundance in December. This indicates the season should not open on the mainland until late October and on Long Island until very late November.

THERE'S another improvement which can be made in our present use of the waterfowl resource—elimination of the existing waste of ducks. This can be accomplished in two ways: by a reduction in crippling losses, and by a reduction in the illegal kill. It is estimated that these two factors take a toll equal to 40 per cent of the annual hunter bag of ducks. Shooting when the ducks are out of killing range (done by guys at whom their neighbors yell "Get an anti-aircraft gun"); blasting them where they drop in marsh tangles and cannot be found; gunning before and after the season, in excess of limits and by countless illegal methods—they all create waste and so reduce your sport. The Joint Waterfowl Committee is seeking to develop a major educational and publicity campaign to get public understanding and assistance in correcting these conditions. Your Department is assisting in this work.

As we pause for a breather between issues of THE CONSERVATIONIST, let's remember this well: the gunner who says, "To hell with saving ducks for tomorrow; I'm going to get mine today"—that gunner merely denies himself better future gunning.

—ROBERT A. WELLS

CATTAIL

TRAPPERS, botanists, and "flag" cutters recognize two or three species of cattail in New York State. For our purposes we need to consider only two, the common cattail or soft flag (*typha latifolia*) and the narrow leaved or blue flag (*typha angustifolia*). These species can be distinguished by the differences in the spike, bob or cattail. With the common cattail the male flowers (those on the tip of the flowering stem) join with the female flowers or those that compose the cattail. With the narrow leaved cattail the male flowers are separated from the cattail by a varying but noticeable distance. The common cattail is the one most frequently found in hillside seepages or hilltop marshes, while the narrrow leaved species occurs most often in lowland habitats.

To many people, and in particular those who own shallow water ponds, cattails may be a source of great annoyance. These plants are hardy and their control is difficult, since they perpetuate themselves by seeds and also by "runners" or underground stems. The seeds are extremely small, and each is subtended by numerous downy hairs. As might be expected, these seeds are carried easily by the wind, and when conditions are right for their germination, cattail plants are apt to appear "right out of the blue."

It is easier to prevent the growth of cattails than it is to control them. In ponds with water depths greater than 18 inches, few cattail plants will appear. Those that do will be found in shallow water or on the wet soil of the pond margins, and they may be controlled by pulling or cutting. In shallow water ponds where cattails are troublesome, frequent underwater cuttings in June and July will usually suffice to rid the area of them.

But the spirits would rest less easily if there were no cattails. Tons of blue flag are harvested each fall to fill the needs of the cooperage industry; the ability of the leaves to absorb moisture and swell, as well as their capacity to resist decay, make them ideal for sealing the spaces between barrel staves. Furthermore, the leaves of the common cattail, when cut and cured in late July or early August, may be fashioned into beautiful, durable chair seats. Not many plants contribute so directly to man's comfort and relaxation.

The plant has other uses. During World War II when kapoc was unavailable for filling life jackets, cattail down did a commendable job of pinch-hitting; the "runners" of this plant are rich in starch and have served as a source of food for livestock, and in emergencies, have sustained Man; the better grade of leaves are used for caulking wooden hulled ships and barges, as well as barrels, while inferior leaves are often used for packing nursery stock.

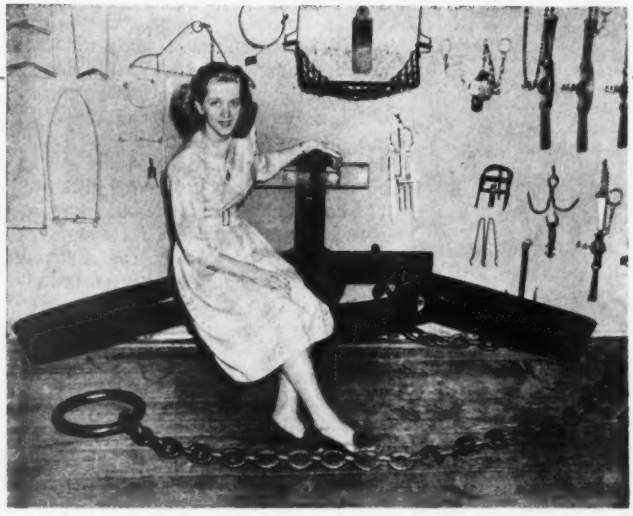
But to those of us interested in wildlife, the greatest value of this plant lies in its relationship to those species which profit from its existence. Cattail plants furnish food and house building material for muskrats. Pheasants frequently seek cattail marshes when driven by hunting pressure from less impenetrable cover, and in the winter these birds often find security in the small, snow covered openings which each cattail marsh affords. Ducks find many cattail marshes suitable sites for nesting, brood rearing, feeding and resting, and song birds, often in great numbers, as well as the picturesque shore birds are attracted to such marshes.

In any wildlife management program in the Northeast, the development of cattail marshes should receive high priority. In fact, the cattail plant bids fair to become one of the key factors in the management of wet lands for the production of a wildlife crop. The relationship between the amount of open water and total cover seems to be an important factor in the production of waterfowl, particularly black ducks, and a suitable ratio can be maintained by muskrats. The cattail is a most important food of this fur-bearing rodent during the critical winter months, and when muskrat numbers are properly regulated, these animals will consume each year as much food as is replaced by plant growth. This results in new "islands" of open water annually and provides for marsh rotation. Thus the cattail fits neatly into management plans for both ducks and muskrats.

PROFESSOR Muenscher defines weeds as: "those plants, with harmful or objectional habits or characteristics, which grow where they are not wanted, usually in places where it is desired that something else should grow." Only occasionally does the cattail fall in this category.

—ARTHUR COOK

TRAPS



Newhouse Elephant Trap: Only one made; largest in the world. Built in 1893; 8' long, weighs 450 lbs. with chain; chain alone weighs 100 lbs. Jaw spread 32"; chain 12' long. Made by Oneida Community as a special exhibition trap and known as the No. 999 Oneida Newhouse model. Never used.

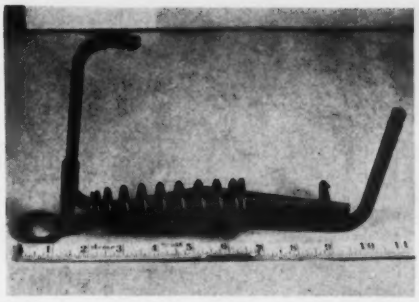
Part II: The Search for a More Humane Trap

MAN is a contrary creature. He takes more or less for granted the fact that discomfort and pain are a part of his life, and his readiness to undertake wars indicates that he does not hesitate to inflict discomfort and pain on others of his species. But, in his relationship with lesser animals, Man has a different code; cruelty to animals is almost universally condemned by modern civilization.

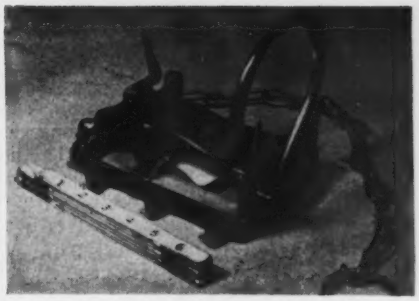
On the other hand, if Man must be cruel to animals, he is not above it. The steel trap is a cruel instrument, yet in order to promote human welfare as well as the welfare of animal populations, the steel trap is a necessity. In any case, it is a necessity until something better comes along, and it's to Man's credit that the search for something better in the way of a trap has been under way for many years. But until this search bears greater fruits than it has up to now—in order to make full use of our resources; in order to control wildlife populations in their own interests as well as in the interests of Man; in order to adjust animal populations to constantly shrinking environments—Man will continue to use the steel trap.

The search for *the* humane trap has been in progress for more than a century, but to no avail. More than 100 patents have been filed in this country alone dealing with trap variations such as super claws, spikes, poison gas and shotgun attachments—all designed to lessen the suffering of the animal in the trap. By strange coincidence, only the guillotine principle seems to have been overlooked. However, one simple wolf trap provides for a sharp knife imbedded in a quickly melting, appetizing substance. The wolf licks this substance, cuts his tongue and is promptly slaughtered by his blood-maddened running mates. Effective, but hardly humane.

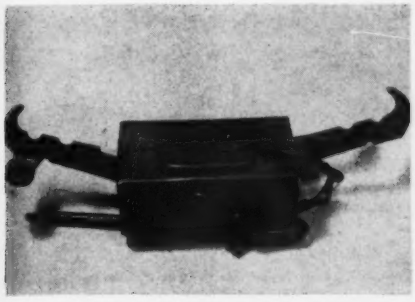
Rewards and prizes have been offered as incentives for inventing *the* humane trap. Nearly a hundred years ago the Royal S.P.C.A. in England offered 50 pounds (about 250 bucks American) for a device which would capture animals without inflicting pain. Several hundred traps were submitted, none of which won the money. No more successful was the outcome when, in 1921, the American S.P.C.A. offered 500 dollars. This time nearly 600 traps were unsuccessful contenders. In recent years, the American Humane Association ran annual contests with as much as $100 for a more humane trap. This money was collected, although the



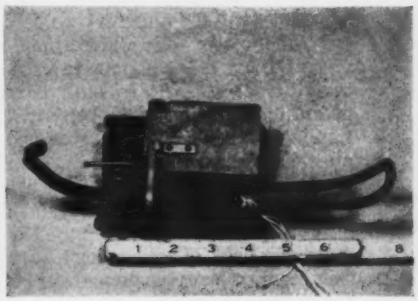
Cooper Humane Trap: Made in Apalachin, N. Y. Set in runways or at den entrances. Wire is stretched across the jaws. Animal runs into wire to release trigger and guillotine-like arm descends to kill the animal. Legal in N. Y. State. Can be used for rabbit, gopher, woodchuck, skunk and other animals of similar size. Difficult to set. Damages fur to lessen value of pelt and not very economical to use.



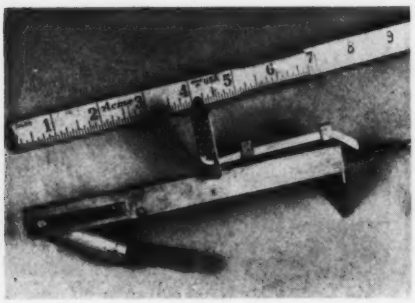
Killer Clutch Trap: Unknown maker. Bait sets on spike at back; clutch jaws scissor together to choke animal while spike, seen at clutch base is driven into chest cavity. Legal in N. Y.



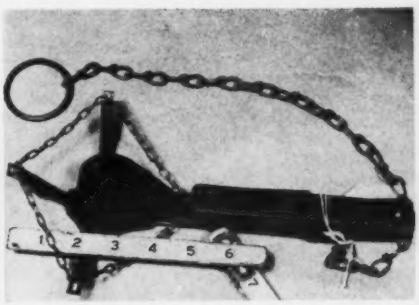
Duncan Rabbit Trap: Made in England. Killer type trap. Trap is set in runway or in den entrance. Animal steps on the pan releasing the two side arms which scissor together to break animal's neck. At left, trap is set while at right, trap is sprung. Indentations in the arms give additional purchase. Iron peg attached with chain for staking. Legal in N. Y. Not commonly used in this State where rabbits are hunters' game.



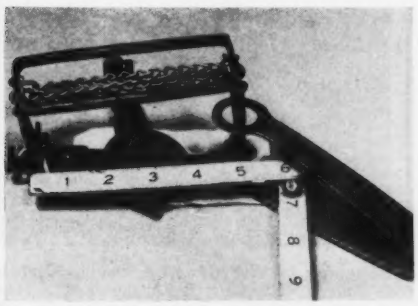
Killer type body trap: RSPCA, London stamped on it. As animal steps on pan, the two arms come together, the one on left fits into arm hole at right. Used on common rats.



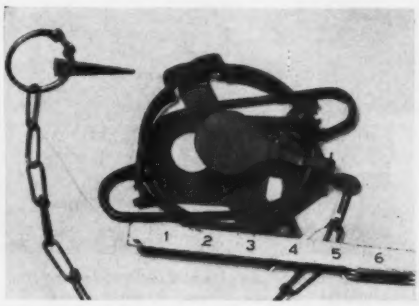
"Never Fail" Trap: Brass coated; a blank cartridge is set in base chamber. Animal hits perforated pan to release trigger in base. Used for moles, ground squirrels, and gopher.

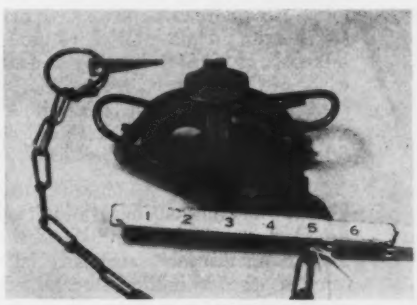


Epp Chain Leg Hold Trap: Maker D. A. Epp, Henderson, Nebraska. Legal in N. Y. Chain forms a loop when trap is set. When trigger is released, spring of trap rises to pull slip noose on chain tight to hold the animal's leg. Hard to set; not very efficient, and easily damaged to cause trouble. Pencil represents animal's leg. Set in runways and den entrances. Gopher, pole-cat, rat and other animals of similar size.



Chain Leg Hold Trap: Unknown maker, no patent marks. Pan with V slot; front of jaws has 5" spread while back has 6" spread. Legal in N. Y. Used for skunk, raccoon, beaver.





Save-A-Leg Trap: Designed by L. S. Schneider, Hatboro, Pa. Developed and patented by Animal Trap Co. of America, Lititz, Pa. Was prize winner of 2nd annual humane trap contest of American Humane Association. Has 4 jaws which, when sprung, form a hole in which animal's leg is held. Animal cannot chew or pull leg off. Used for mink, skunk, weasel. Legal, but manufacturing costs are prohibitive.

ideal trap never appeared.

But, the greatest prize of all for a humane trap went uncollected—10,000 dollars, the right to the patent and the royalties on the trap. The now defunct National Association of the Fur Industry once offered that prize for a humane trap which could take the place of the present steel trap. And today, the American Humane Association in Albany is offering a substantial prize for the trap. The amount to be announced soon.

To win this prize, the trap must take the animal alive and unhurt, or must provide for a humane death. In addition, it must meet the practical requirements of the Fur Industry:

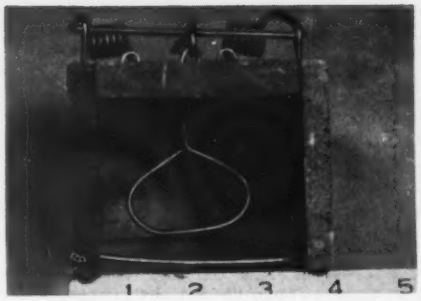
1) It must weigh no more than the present types of steel traps in each of the different sizes. 2) Its bulk must be no greater than that of the present steel trap in each of the different sizes. 3) It must be as strong and durable as the present steel trap. 4) It must be as unobtrusive as readily concealed and disguised, as the present steel trap. 5) It must be capable of application to as wide a range of service as the present steel trap. (In different sizes, it must be practical for catching a weasel or a wolf.) 6) It must be "fool-proof". (Not dangerous to the trapper himself. No trap with poison, poison gas or explosive attachments will be considered.). 7) It must be as cheap to produce in the various sizes as the present steel trap. 8) It must do its work with undue injury to the fur of the trapped animal. 9) It must be as simple to "set" and to maintain as the present steel trap. 10) It must be capable of production in quantity.

These are the rules. Sewell Newhouse certainly did a bang-up job when he designed the present day steel trap; no one during the last 100 years has been able to change its rudiments, although plenty of people have tried. Shown on these pages are the results of some of these efforts to replace the present steel trap.

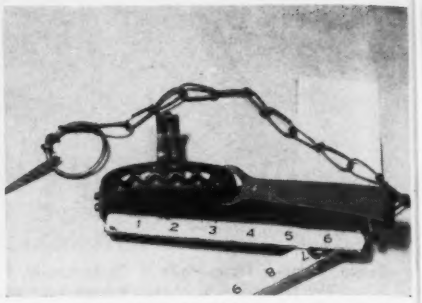
But some inventive genius ought to be able to come up with something more humane than what we have today, and just as practical. We've improved the tools of almost all other trades, so why not the common steel trap? Fame and fortune, as well as recognition as a great humanitarian await the successful inventor.

BUT whatever you invent, don't send ideas or samples to us. Send them to the American Humane Association, care of the Wildlife Director, 135 Washington Ave., Albany, N. Y.

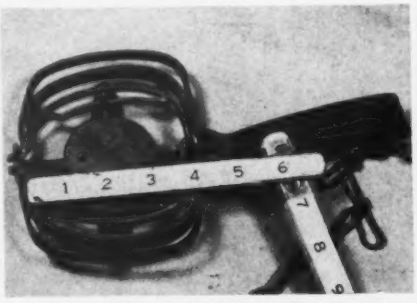
—Nick Drahos



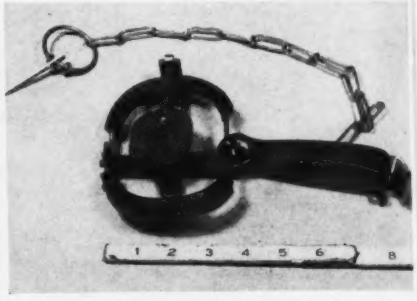
California Gopher Trap: Made in Apalachin, N. Y. Animal pulls bait placed in back of box, springs trap and is choked to death. Legal. Also used for squirrels and chipmunks.



Save-A-Leg Trap: Legal in N. Y.; jaw spread 4½"; made by Joe Froelich, Sayner, Wisc.; patented "Swivel Jaws". Animal's leg fits into slots. Designed for muskrat and mink.

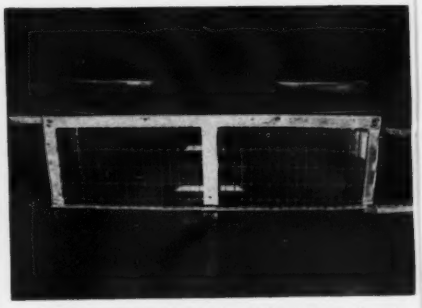


Four Jaw Trap: Made by John Fuchs, Findlater, Saskatchewan, Canada. Legal in N. Y.; jaw spread 5". Designed to keep leg immobile. Used for mink, weasel, muskrat, skunk.

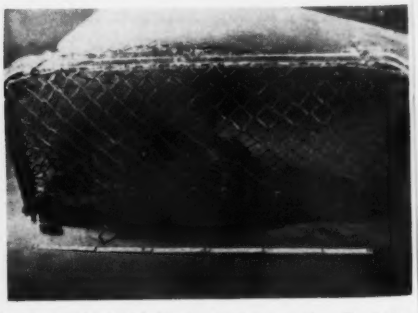


Cush-N Grip #1 Humane Trap: Legal in N. Y.; rubber on jaws prevents smashed legs and tearing of skin. Was made by Charles Briddell, Inc., Cristfield, Md. Mink and weasel.

Diamond Brand #22: Long spring frame jaw with 4 offset rubber discs on each jaw to hold leg. 7½" spread makes it illegal in N. Y. Was made by the Norwich Wire Works, Inc., N. Y.



Havahart Trap: Made by Animal Trap Co. of America; comes in different sizes. This one designed for raccoon and animals of similar size. Sturdy, reliable, but bulky to use. Legal.



Bailey Beaver Live Trap: Excellent beaver trap. Used extensively by N. Y. State Conservation Dept. to transfer nuisance beaver. At right is one of the early Bailey's while (left) Frank Sherwood, a State Trapper, is setting a more modern Bailey. Trap is set in shallow water. Brace at bottom holds trap upright to prevent drowning animal, which is transported in cage to other waters for release.

SCATTER SHOTS

notes of general interest

Sure Kilroy Was There—But So Was Witbeck

We had a letter the other day from a Mr. Irving Lobdell of Averill Park. He said he had caught a trout recently with a tag in its mouth, and somebody had told him that if he sent the tag in to us he would get a reward. (Somebody gave him a bum steer; we really appreciate the co-operation, but the only reward is a letter that tells all we know about the tag.) But Mr. Lobdell also wanted to know about the tag. All it said on it was "Witbeck 98."

The tag was like the ones we use except that ours have N.Y.C.D. (for New York Conservation Department) on them, and then usually a number. When one of our tags is returned we really learn something, because we keep careful records of all the tags that are attached to fish and game and when one of them is returned (along with suitable information about the beast that wore it) we can piece together a pretty good life history. But when one of Witbeck's tags comes in—well, the trouble with this particular brand of private enterprise is that it doesn't mean anything to anybody except maybe Witbeck, and who and where is Witbeck?

Come on out, Witbeck. We know you're in there, and we won't hurt you.

TWANG!

The Sixth Annual National Field Archery Tournament was held at Watkins Glen, Chemung County, from August 20 to 24th—the first time it's been held in the East. Of significance is the fact that 200 of the 430 yeomen in the meet were Michiganites, who doubtless came East in the hope of starting a grass fire under Easterners.

Archery, as a sport, has staged a meteor-like resurrection in the West during the past five years, and is now taking a solid hold in the East. It's a good sport, suitable for the whole family, but we'll have to wait for the results of the special archery season on deer this fall to find out what propaganda effect the meet at Watkins Glen had on those who *hunt* with the bow. But we suspect there will be more deer hunting archers than last year—quite a lot more.

They can hunt the whitetailed deer two weeks ahead of the regular gunning dates in any of the zones where deer hunting is allowed. This, of course, requires a special archery license ($5.25). But during the regular gunning season, archers may still use the longbow provided they have a Big Game license.

NO SMOKE

It probably didn't sound amusing to the fire tower observer, or to any other of our radiotelephonic communication units that happened to be listening in. But it did to us.

A Ranger had been called to investigate a smoke. He reported back to the tower:

"Naw, that was no smoke. Just a guy's tractor burning up."

Our Rangers have to stick strictly to business. Unless it's a forest fire, it's no smoke.

ORNAMENTAL PHEASANTS
(AND AN IMPORTANT LESSON).....
These beautiful birds from Asia serve NO useful purpose in our economy. They are shown here merely to help illustrate a point..... Because they are spectacular, folks (especially children) are likely to remember and tell others about them.... If we could dress a grain of topsoil in gaudy feathers, or make it hang by it's tail, maybe we could arouse more public interest in topsoil too. We've got to – for although our living depends on topsoil, we're standing idly by while millions of acres are mined out or washed by erosion to sea every year.... Forget these unimportant fancy pheasants but look around you and note the abandoned farms and bare hillsides, the floods and the droughts and GET INTERESTED in what can – and must – be done about it.
The Division of Conservation Education,
N.Y.S. CONSERVATION DEP'T.

SIGN OF THE TIMES

The Division of Conservation Education maintains a modest menagerie of study and exhibition wildlife at the Delmar Game Farm. A sign on each of the big cages tells the economics of the particular species within. Recently we got a letter from a lady in North Carolina who said she had visited Delmar last summer and had copied the legend on the sign used on a pen housing Golden and Lady Amherst pheasants. She said she thought it was a good sign and deserved wider publicity. Here it is for you to read.

DID IT THE HARD WAY

On the afternoon of August 15 Mr. Bill Yurgealitis of Rochester baited up with a softshell crab and started out to fish for bass in Black Lake. He was using an 8½ foot, 5 ounce fly rod with 120 feet of 18-pound test line. In other words, he had some sporty tackle for bass fishing.

Pretty soon he hooked a bass—a 2½ pounder as it turned out later, much later. He played it for a couple of minutes and then the bass broke water, shook a bit, and dropped back. What it dropped back into was the mouth of 49 pound 1 ounce, 51½ inch long muskalonge.

Needless to say, Mr. Yurgealitis had his hands full for the next two hours, but at 6:45 p.m.—to the cheers of the multitude that had assembled on the shore to watch—the fish was brought in. Thereafter it lay in state in the Icicle Restaurant in Hammond, into which filed a procession to view it.

The muskalonge was not hooked. Apparently what happened was that when he grabbed the bass head first, the dorsal spines jammed in the roof of the muskie's mouth, and that did it.

But the bass had been well hooked.

Mr. Yurgealitis has fished Black Lake for seven years and has caught plenty of fish there. But this was the only time he had to cart off his catch in a wheelbarrow.

—J. D. Bulger

WANTED: A BETTER DUCK SEASON

Several years of patient negotiation with the United States Fish and Wildlife Service to have a more logical waterfowl season established for this State came to a climax this year when Commissioner Duryea was finally obliged to advise Mr. Albert N. Day, Director of the Service, that he could no longer continue to recommend or approve the kind of season made available to our State.

The establishment this year of the two short "split" seasons of only 18 days each, similar to the unsatisfactory seasons of the past few years, was, therefore, in this particular instance clearly the responsibility of the Service. Heretofore, by giving the states some choice on specified opening and closing dates, the Service has attempted to make it appear that the seasons themselves were recommended by the states.

The Commissioner's firm stand, taken as the only remaining way of emphasizing to Director Day the need for a different type of season, evoked unprecedented and spontaneous support from all parts of the State. It also served to bring out the basic difficulties which result from the present policy of the Service.

The most serious error made by the Service has been its insistence on using state boundaries in fixing seasons—regardless of the size, shape, or geographical location of the state. Thus, New York, a large state reaching from Canada on the north to New Jersey on the south, has been made to accept seasons of the same type as those offered small compact states, many of which are but a fraction of the size of New York.

We in New York have consistently maintained that such state boundaries have no climatic or biological relationship to waterfowl, and that a state as large as ours should be zoned so that the northern part could have seasons comparable to those in Vermont, and the southern part (principally Long Island) the same type of season as is available to nearby Connecticut or New Jersey. The Service has admitted that the seasons offered have not been satisfactory, and has continued to hold out hope for a better solution to our waterfowl hunting problems. But no such solution has been produced.

This year new hope was kindled when a representative of the Service, at a hearing in Syracuse on August 4, suggested that it might be possible to have a longer continuous season by reducing the number of hunting hours in the day. This solution seemed to have great promise, because the longer continuous season would help to cover the great geographic differences which exist in our State. It was, therefore, strongly recommended by the Commissioner. However, when Director Day took official action on the seasons for New York, this solution was rejected and the Commissioner was again asked to recommend and approve the same unsatisfactory type of season which has prevailed in recent years.

It was at this point that the break came. Throughout the discussions with Director Day which led up to it, the Commissioner repeatedly emphasized that New York has not and does not object to any measures deemed necessary for the protection of our waterfowl. All that is being sought is a fair hunting opportunity. The people of our State should not be penalized because our State happens to be large. Zoning—or a longer continuous season, even if it means a shorter hunting day—is definitely called for.

It is hoped that the strong representations made this year (which will be continued) will convince Director Day that New York's problem, and that of similarly situated states, is serious enough to warrant a special effort to find a solution before the time comes to set the seasons for next year.

BIG DOINGS AT ROCHESTER

Every city, at one time or another, has its convention where nearly everyone gets—well, at least a good time is had by all—then everyone goes home a little doubtful as to whether anything worthwhile has been accomplished.

There was an exception this year during the week of September 10th, when New York State and the City of Rochester had the honor of entertaining in convention, members of three organizations important to the progress of fish and game conservation: the International Association of Game, Fish and Conservation Commissioners, the American Society of Limnology and Oceanography, and the American Fisheries Society. The 500 persons attending found the program smoothly organized and the city hospitable, due in no small part in both instances to the efficiency of the Arrangements Committee headed by O. R. Kingsbury.

The International Association, with commissioners and administrators from Canada, Mexico and nearly every state present, devoted its program to topics of wide general interest. A highlight was a panel discussion, headed by Ira Gabrielson of the Wildlife Manage-

ment Institute, on the relationship which must exist between commissioners and administrators in any efficient fish and game department. The handicaps to progress in wildlife administration were analyzed and the progress that has been made in wildlife conservation was reviewed to facilitate charting a sound course for the future.

Keeping land open to the public, deer herd control, waterfowl improvement and control, and many such problems which New Yorkers view as peculiarly their own, it developed are in truth national—even international in scope.

An opportunity was provided for our visitors to see the Finger Lakes Region and some of the Department's facilities in this area. Even more impressive, an inspection tour of small marshes constructed under the Department's habitat improvement program gave the ducks themselves an opportunity to convince any "doubting Thomases" in the group of the soundness of this program.

The American Fisheries Society, formed in 1870, is the oldest organization of its type in North America. The stated purpose of the organization is "To promote the cause of fish culture; to gather and diffuse information bearing upon its practical success and upon all matters relating to the fisheries; to unite and encourage all interests of fish culture and the fisheries; and to treat all questions of a scientific and economic character regarding fish." As members it has attracted professional fisheries workers, students and others closely identified with fisheries work in North America, and its annual meetings bring together the men and ideas most concerned with progress toward better fish production.

Two days of the 1951 session were given over to presentation of the fisheries papers, including the half-day joint meeting with the Limnologists and Oceanographers. Thirty-six papers were included in the program—twenty-five for presentation during the two days. Subjects varied widely as may be illustrated by mentioning three of the titles: "Cold Areas Along the Baja, California Coast and Their Biotic Significance," "Vitamins and the Diet of Hatchery Trout," and "The Use of Postcard Returns for Estimating Total Catch." Most of those presented were of wide interest to the assemblage and several were of immediate, practical value in connection with fish management activities. Among these, for example, were discussions of alkalization of bog lakes and of trout management in farm ponds.

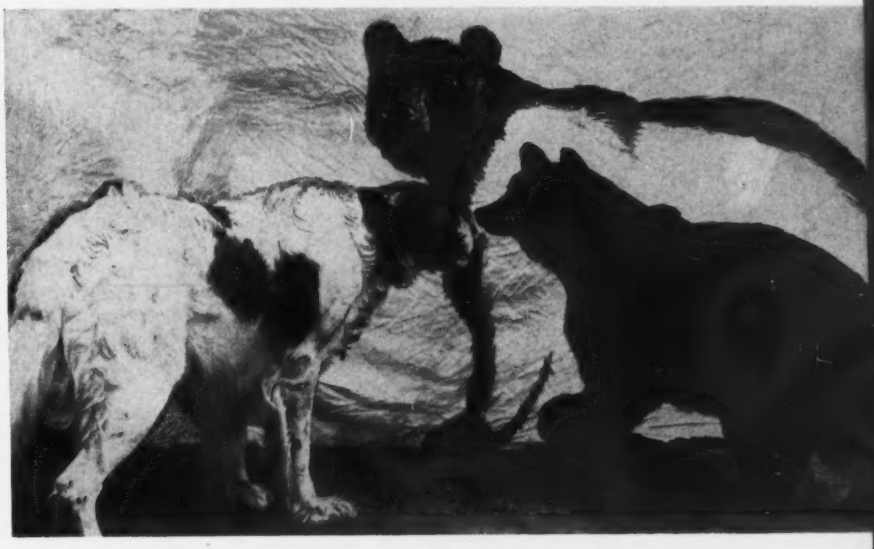
These papers will be published as Volume 81 of the Transactions of the American Fisheries Society. The Transactions are issued to all members of the Society and may be purchased by nonmembers.

What was accomplished? Immediate, tangible results are of course not obvious, but the opportunity for commissioners, administrators and scientists to examine their own problems and programs in the light of the total conservation job to be done is certain to bear fruit. It will expedite the formulation of integrated policies that assure better management for the living natural resources on our entire continent.

DEER CHECKING

Again this fall it is urged that successful deer hunters stop at one of the Department's checking station so that the age and size of the bucks taken can be recorded. As we have pointed out before, such data (which have been gathered for several years) are giving highly valuable information regarding the composition and condition of the State's deer population.

In the Adirondacks, stations will be (1) on Route 9 south of Lake George, (2) on Route 28 near Alder Creek, and (3) on Route 8 near Poland. In the Catskills: (1) near the junction of Routes 7 and 30 north of Schoharie, (2) on Route 17 east of Bloomingburg, and (3) on Route 9W south of Kingston. It is also planned to operate several stations in the western section of the State.



CLEARING UP THE BEAR LAW

New York State law says that it is illegal to kill a bear less than one year old. This has resulted in much wisecracking among the big game hunters who assert, logically enough, that it is hardly possible to go around knocking on bears' noggins seeking permission to examine their bridgework as a possible index of adulthood.

Furthermore, the Conservation Department's Law Enforcement boys, sworn to uphold the baby bear law along with the voluminous rest, have been a bit embarrassed when pressed for court evidence to show that cubs, illegally taken, are indeed below the year-old par for the course.

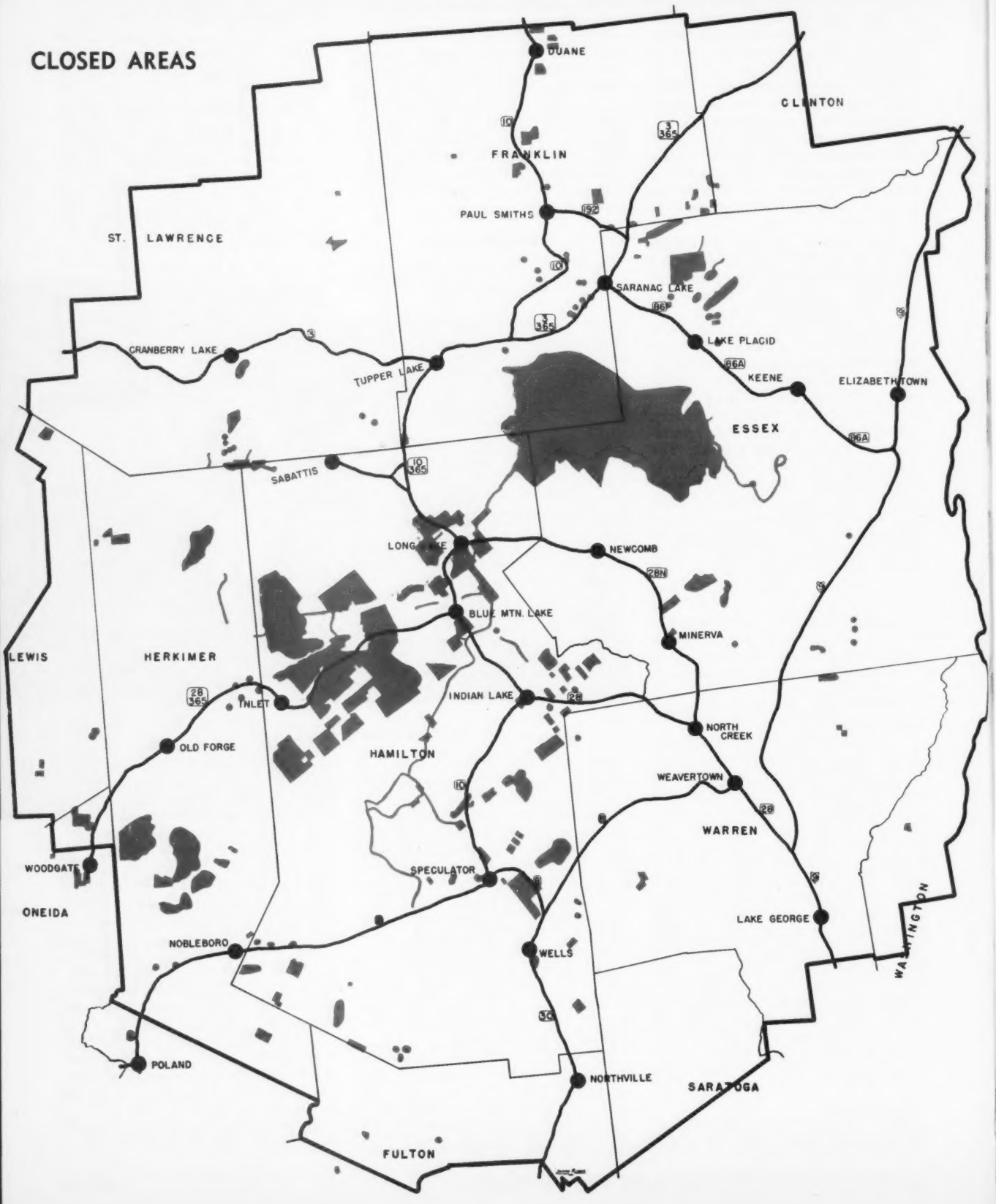
But we would like to demonstrate that the law makes a distinction that any hunter (worthy of the name) can make, and THE CONSERVATIONIST herewith presents picture evidence of age and respectfully suggests that a legal bear is quite obviously beyond the cub stage. The stuffed bear above (which currently crowds the files in the office) was a captive speciment born February 5, or within five days of that date, and became deceased November 22, aged ten months. Its live weight was 78 pounds; it dressed out 68—which represents about the average 14 per cent dressage loss for bears as against 25 per cent normally for deer.

Pictured with the animal is a setter to give a better idea of relative size. Sketched in the background is an adult two-year-old which would weigh in around 180. He's legal game.

Incidentally, Pennsylvania records show that ten months old cubs in that state average about 55 pounds and range from 30 to 80—so that the cub shown here definitely would be a big one.

Again, a legal bear is one obviously past the cub stage. Get the picture?

SALVAGE REPORT (5)



THE gigantic job of dealing with the problems of the blowdown areas (including fire hazard reduction, the organization of emergency firefighting plans, and the salvage of down timber) has moved forward rapidly since we last reported.

Recognizing that next year and perhaps the year following will find the fire hazard at its worst, Commissioner Duryea directed that meetings be held throughout the Adirondacks to mobilize all firefighting resources. Meetings were held in Warrensburg, Indian Lake, Booneville, Lowville, and Lake Placid. All interested persons, such as supervisors, chiefs of volunteer fire departments, contractors, district highway officials, lumbermen, etc., were invited to attend. At these meetings the gravity of the situation was explained to them and their assistance in the case of serious fires solicited. All local equipment of suitable character for fighting forest fires was listed and tabulated as to location and as to the telephone number of the person having it under control, as were the various manpower pools from which crews of men under a foreman could be secured. The owners of such equipment or persons having under their control groups of men agreed in writing to make them available upon request from the Bureau of Forest Fire Control, with the understanding that such services would not be required except when such fires were out of control or threatened to become so. The response of those present surpassed all expectations.

In addition to this inventory of manpower and equipment the Department is preparing a strategic plan of firefighting for each of the major areas—a plan which contemplates use of both private and public facilities. Further meetings similar to those just held will serve to acquaint all hands with the plans and procedure to be followed in the event of an emergency.

With regard to the salvage operations, the Technical Advisory Committee on Forestry held a meeting on September 18. It was reported that 86 separate contracts had been executed or approved. These included 177,980 cords of wood and 16,786 MBF of sawtimber, for which the indicated consideration was $736,929. The total receipts from contracts in force on September 1 amounted to $149,690.58 and in addition, the Department had made small local sales of materials cut by its own forces on campsites, trail and roadside clean-up operation in the amount of $6,349.98, making a grand total of receipts to September 10 of $156,040.56.

In addition to the 86 contracts, the Division of Lands and Forests has blocked out on the ground an additional 54 areas upon which the blow-down should be removed. All of these have been advertised one or more times, but because of the tightness of the labor supply, the various purchasers of stumpage have not felt that they could safely take on any more projects at this time, although a number have signified their intention of bidding on some of these areas at a later date. Moreover, from time to time the State is in receipt of requests to advertise particular areas, and it is expected that a substantial number of these areas will be sold in this manner. Those which are not thus disposed of will, of course, be readvertised at a later date.

A computation made on the basis of the estimated quantities and the average stumpage prices received to date indicates a total contract consideration of $942,761.70, which when added to the contracts now in force makes a total possible contract consideration of $1,679,691.55. This, of course, is an estimate, but experience to date indicates that these estimates will very substantially overrun, perhaps as much as 30 per cent.

The Department believes that these 140 areas, totaling about 160,000 acres, cover the major portion of the heavy blow-down area. But additional small areas will, of course, be located from time to time.

Regarding hunting, Commissioner Duryea issued a statement on September 25 in which he made it clear that if present wet weather conditions continue during the hunting season, it is doubtful if any restrictions will be placed upon use of the Adirondack forests other than those now in effect. This means that about 90 per cent of the State Forest Preserve lands will remain open to public use. A marked change in the weather, however, or an unusually large number of serious fires might make further closures necessary. The areas now closed and posted (see map) are to remain closed during the entire hunting season. These include 90,000 acres in Raquette River-Cold River-Lake Colden area, the 140 present and proposed contract areas, and the trails listed on the following page.

Due to limitations imposed by space, the map on the opposite page shows only the approximate locations of closed areas. It should suffice, however, to acquaint hunters and others intending to use the Forest Preserve this fall with what they may expect to find; if there is any doubt as to whether your favorite spot is included in the closed sections, contact the nearest Ranger. All closed areas are conspicuously posted.

Burning Index

Is today a bad day for fires? Compared to yesterday, how does it stack up? Judging by present conditions and trends, what is the outlook for tomorrow?

Extensive studies and long years of experience have indicated that there are four factors (each one of which is measurable) that determine the likelihood of a forest fire getting started, and also the potentialities of such a fire once it has gotten under way. These factors are: (1) Fuel moisture content (the drier the fuel, the faster the fire). Fuel moisture content can be determined by weighing sample pieces of wood and by considering in conjunction with this the amount of precipitation and the number of days since rainfall. (2) Wind velocity. (3) Conditions of vegetation: That is, green, or dried out, or transitional. And (4) season of the year.

All these factors can now be placed in relation to each other on a sort of circular slide rule which has indices that can be set according to the known factor for each condition. The slide rule, after these settings have been made, comes up with an answer known as the "burning index", which is in effect a summary of the fire hazard created by these conditions. If the index is high, the day is called a "class 5 fire day"; if there is no danger of fire it is a "class 1 fire day".

This burning index is not merely an interesting mathematical proposition; it is of immediate and practical importance in suppressing forest fires, because the fire fighter knows in advance just what the extent of his problem will be. For example, if the burning index is low, one or two men can quickly put out a fire, whereas if the index is high, more men and more equipment will be required. The index has other uses. It may be used to forecast the character of fire weather, and when properly recorded from day to day, will indicate a trend in fire conditions.

To supply information to compile the index, this Department now operates 14 stations throughout the Adirondacks at which readings are made three times each day. That data is transmitted to the district office, where reports are coordinated and plans are mapped out accordingly.

FOR YOUR INFORMATION

CLOSED TRAILS

In Essex County: Elk Lake to Mt. Marcy; Elk Lake to Dix Peak; Whiteface from head of Lake Placid; Lake Placid to Loch Bonnie; Lake Placid to Franklin Falls.

In Hamilton County: Northville-Placid Trail from Piseco to Moose Pond in Essex County; Blue Mountain to Sargent Pond; Lake Eaton to Owls Head Mountain; Blue Mountain Lake to Stevens Pond; Blue Mountain Lake to Terrell Pond; Perkins Clearing to Cedar Lakes; Pillsbury Lake and Whitney Lake to West Canada Lake; West Mountain to Big Moose, part.

In Herkimer County: West Mountain to Big Moose, part; Twitchell Lake to Beaver River.

In St. Lawrence County: Trail to Five Ponds.

CAMPSITE FACTS

The campsite season (which officially closed on September 10) set an all-time record in spite of unusually rainy weather in July and August. The 34 public campsites recorded a total individual registration of 842,928, and a man-day use of 1,292,466. But in spite of the increased facilities, we're sorry to say that 15,959 individuals had to be turned away for lack of room.

The Lake George Islands (which are not included in the above figures) entertained 7,339 individual campers who camped for a total of 38,693 man-days. And on the Fulton Chain canoe route 432 canoes, with 1,016 passengers, passed over the Forked Lake carry. This is the only place where a count of this kind is made, and represents only small percentage of total use.

The three campsites having the greatest use were: Cumberland Bay, with a total man-day use of 194,654; Fish Creek Ponds, with 122,060 man-days; and Hearthstone Point, with 77,503.

To compensate for the blow-down areas closed to the public in the Forest Preserve, the following campsites will be open for public camping until after the hunting season (except at Lewey Lake campsite; however, no caretakers will be on duty):

Adirondacks—Whetstone Gulf, (Lewis County); Cranberry and Eel Weir, (St. Lawrence County); Fish Creek Ponds, Rollins Pond and Meacham Lake, (Franklin County); Wilmington Notch and Sharp Bridge, (Essex County); Sacandaga, Poplar Point, Moffit Beach, Lewey Lake, Lake Durant, Golden Beach, (Hamilton County); Hearthstone Point and Eagle Point, (Warren County).

Catskills—North Lake and Devil's Tombstone, (Greene County); Woodland Valley, (Ulster County); Beaverkill, (Sullivan County).

WELL EARNED REST

During the past month, Henry Teal, Superintendent of Law Enforcement in the Division of Fish and Game, and Ernest Blue, District Ranger in the Division of Lands and Forests at Herkimer, retired from service. Between them, their length of service in the Department exceeded the three-score and ten allotted to most of us mortals.

Hank Teal began his service in the Department in December, 1914, when he was appointed a Game Protector. In 1921 he was appointed District Ranger and served in that capacity until 1930 when he was appointed Supervisor of Wildlife Refuges. In December, 1937, he was appointed Superintendent of Law Enforcement. He was serving in this position when he retired on September 1.

Ernie Blue, a graduate of Biltmore Forestry School, began his service with the Department in April, 1912, as a laborer. After a short period, he left to accept employment outside of the Department. In June of 1915 he returned to the Department as a Forest Supervisor and continued in this capacity until September, 1917, when he was appointed District Ranger. He had continuous service as District Ranger until he retired on October 1.

At the time of his retirement, Ernie was the "Dean" of the District Ranger force. A quiet, unassuming man and a splendid public servant, he deserves an enthusiastic "well done" for his fine work over the years in the Department's forestry organization.

Hank Teal is known to thousands of sportsmen throughout the State. A colorful personality, Hank performed a variety of duties earnestly and well during his long period of service. He is perhaps best known for his work as head of the fish and game law enforcement program in this State, but one of his major contributions in another field should not be forgotten. This was his outstanding work in the development of the Department's system of game refuges.

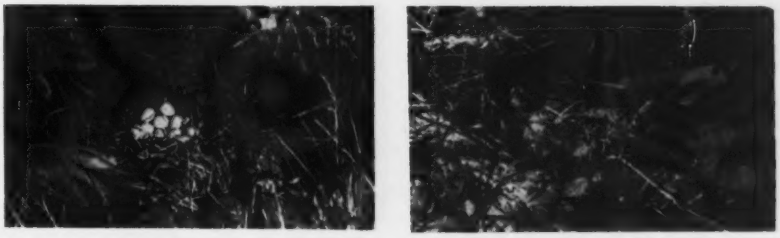
PULPWOOD ADDENDUM

For those desiring additional information after reading "We Have Pulpwood" (page 9) these are useful references: V. L. Harper's and J. C. Ritter's "The Wood Supply Situation in New York State" and V. L. Harper's "Timber Resources of New England and New York With Reference to Pulpwood Supplies", both papers of the U. S. Department of Agriculture Northeastern Forest Experiment Station, Upper Darby, Pa.; also C. E. Libby's and F. W. O'Neil's "The Manufacture of Chemigroundwood Pulp from Hardwoods", a technical publication of the College of Forestry at Syracuse.

COYOTE CONTROL

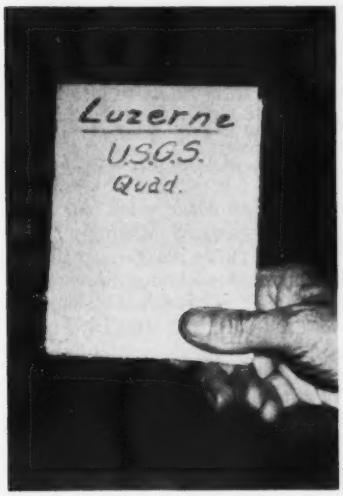
As reported in the June-July issue of this magazine, the Department anticipated a considerable increase in coyote activity this summer—and made plans accordingly. But the coyote threat failed to materialize on anything like the scale that was expected. In spite of the fact that the range of the animal has been extended into new areas, the over-all incidence of coyote complaints has been light compared with the past two years.

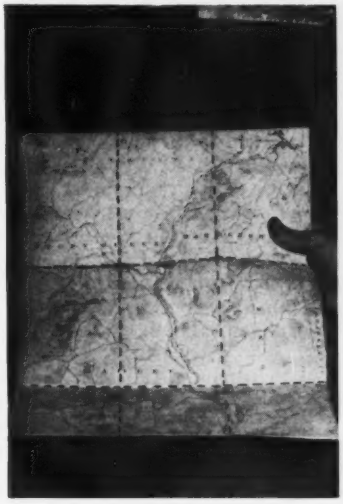
Plans for extensive summer trapping (never productive of significant results anyway) and for demonstration trapping were therefore dropped. This fall, however, the program is being resumed, with one State trapper assigned to St. Lawrence County, two to Oneida and Herkimer counties, and one (for the third year) to southern Essex.



A Hungarian partridge doing a good job. Photograph taken late this spring by John Wilson on the Perch River Game Management area

A more comprehensive report of this year's activities will be presented in a subsequent issue. Meanwhile, we are quite willing to admit that we don't know why coyote activity appears to have dropped off this past year as compared with the preceding two. Packs of animals have shown up in certain areas, stayed around for a few weeks, and then vanished. Obviously, we still have a lot to learn not only about controlling this species, but about the species itself.





MOUNTING U.S.G.S. QUADRANGLE MAPS

The topographical maps published by The United States Geological Survey (still the best available for hunters, hikers, etc.) may be cut into nine rectangles along the latitude and longitude lines, and then mounted on linen or muslin, using rubber cement as an adhesive. By leaving $\frac{1}{8}$ inch space between each rectangle, the map may be folded to size $4\frac{1}{2}$ x 6 inches—very handy for pocket or pack. This is the old method.

A better way is to use the new "dry mounting cloth" called *Chartex*, manufactured by Seal, Inc., Shelton, Conn. and sold by most artist and archetectural drawing supply houses. These sheets should be cut $13\frac{1}{2}$ x 18 inches. Trim the map so as to leave an outside margin of $\frac{1}{4}$ inch all around the outside edge. Then cut along the latitude and longitude lines. Mount the four corner rectangles first, making the outside edges flush with the $13\frac{1}{2}$ x 18 inch mounting material. Next, mount the middle section, left to right, leaving a $\frac{1}{8}$ inch space between each rectangle and being careful to line up the rectangles, using a straight edge as a guide. To stick the map to the mounting cloth, all that is necessary is a moderately hot flatiron. After the job is finished rub some powdered pumice in the spaces between the rectangles to prevent sticking when folded. Then put the job in your pocket.

GOOD HUNTING

Every once in so often hunters (and consequently the Conservation Departments that try to keep hunters happy) get a break from Nature. This looks like one of those years.

Most hunters (and all Conservation Departments) know that when it comes to providing good hunting, most human efforts are very puny indeed compared to what Nature can do when she really tries. Good nesting seasons, good growing seasons, moderate winters, an abundance of natural food—these are factors that really produce a big crop of fall game, and hunters and Conservation Departments can only hope for them. Nature can dish them out.

It appears that Nature has been very generous this year, even more so than last. Another way of putting it is that this is the second of two consecutive years in which the conditions that make for plenty of game have been favorable: we've had two mild winters, two good springs for nesting and raising young, two good summers for growing, and this is the second fall that there's been plenty of food in the fields and woods. The net result is that there appears at this writing to be an above-average supply of game birds and animals.

Nature has a way of restoring balances, a way of reverting to the average. Biologists for a long time have been aware of the fact that if hunters don't take the surplus—the above-average supply—Nature will do the harvesting through disease, predation, bad weather or some other factor beyond our control. So—Good Hunting.

COUNTIES AND LAKES

The Division of Conservation Education now has available reprints of six of the 15 county articles and maps, and 22 reprints of the 27 lakes series from THE CONSERVATIONIST.

These are: *Counties*: Cattaraugus, Chenango, Franklin, Greene, Hamilton and Sullivan. (Fulton and Herkimer are in the process of reprinting now.) *Lakes*: Ashokan, Big Tupper, Black, Blue Mountain, Canandaigua, Cayuga, Champlain, Chautauqua, Conesus, Cranberry, Erie, Indian, Keuka, Long, Oneida, Ontario, Otsego, Piseco, Raquette, Sacandaga, Schroon, Seneca. (Cossayuna, Kensico, Skaneatles, Upper Saranac are now being reprinted.)

We hope shortly to have Columbia, Delaware, Essex, Rensselaer, St. Lawrence, Suffolk and Ulster counties—as well as Lake Ronkonkoma—to bring our reprint list up to current status.

In this issue you will find Warren County and Lake Bonaparte.

TREE PLANTING

We said in our last issue that another million trees would be planted on the State reforestation areas this fall. So they were, 1,601,000 in fact including 435,000 red pine, 135,000 Scotch pine, 863,000 white spruce and 168,000 Japanese larch.

Seventy-three hundred orders took 30,000,000 trees from our nurseries in the spring, and after private planting orders had been filled 2,384,250 were planted in State forests. Production for spring and fall planting totalled 34,000,000 trees.

Don't forget to get your order in early if you want trees for next spring. We've already received orders for 7,000,000, but there are 33,000,000 more available.

BIG GAME LICENSE

We have had a lot of letters recently similar to the one that follows:

Gentlemen: As a matter of accuracy please explain why the Big Game License is listed as $2.00 on page 23 of the 1951 Fish and Game Syllabus, while the price of $2.25 is printed on the upper left hand corner of the license itself. Should Senator Kefauver be informed of this situation?

No need to call the Senator on this one. When the 1951 syllabus was printed in January 1951 the price of the Big Game License was $2.00. But at the 1951 session of the Legislature which convened in January and continued through March, a bill was introduced and enacted into law fixing the price of the Big Game License at $2.25.

Junior Forester

Salary: $2,760 at time of appointment and increases by five annual increments to a maximum of $3,450. (In addition, a cost of living bonus will be paid during the 1951–52 fiscal year.)

Civil Service Status: Competitive Civil Service. Personnel recruited by means of open competitive examination.

Positions (Number and Location): There are eight Junior Foresters, each assigned to a forest district office.

Promotion Opportunities: There is a direct line of promotion to the higher grade position of Forester.

Working Conditions: With the exception of office duties, work is performed out-of-doors the year round. It involves considerable walking in rough, wooded and mountainous country, frequently under adverse weather conditions. The basic working week is five days and 40 hours. However, this may vary considerably according to the demands of various assignments. Employees in this title earn 20 days vacation each year and earn one day of sick leave credit each month. Unused sick leave may be accumulated to a maximum of 150 days. Reimbursement is made for expenses.

Retirement: Membership in Retirement System compulsory. Employee contributes on payroll deduction basis. Variety of retirement benefits.

Duties: Under general supervision of a Forester or District Forester, assists in providing technical services to private woodland owners under the provisions of the Forest Practice Act. Making reconnaissance surveys of private woodlands at the owner's request and giving him technical advice in forest management and harvesting of forest products. Making sketch map of the area showing location and acreage of each block of woods, also the classification of each block according to condition and forest type. For saw-timber areas, selecting and marking trees to be cut and estimating board foot volume. For immature stands, showing the owner what "thinning" should be done to improve the composition of the stand. In the case of open lands suitable for reforestation, making recommendations regarding the number and kinds of trees required and methods of planting. Preparing a management plan of the woodland area for the owner's guidance. Assisting owners in the marketing of forest products.

Qualification Requirements: *Physical:* Good physical condition, active and freedom from any disabling mental or physical defects. *Education:* Graduation from college in a four year course for which a degree in forestry is granted. *Experience:* None.

Special Knowledges and Skills: Good technical knowledge of the principles of forest management, protection and use of forest lands, reforestation, marketing and utilization of forest products. Ability to meet the public and to establish good public relations. Possess tact, good judgment, integrity.

NEXT ISSUE: *Aquatic Biologist.*

CRANBERRY LAKE

Dear Sir: Re the trout problem in Cranberry Lake. A small number of the trout stocked last Fall have been taken here and there—a small number in proportion to number stocked. And some of them had sores around the area where the fins were clipped, while the condition of the fish generally was poor. From my observations of trout with clipped fins, I have arrived at the conclusion that it serves no particular good purpose, handicaps the fish, and the practice ought to be discontinued.

We now have the choice of draining the lake down as low as possible, then resorting to chemicals to destroy *all* of the fish in the lake and restocking with trout—or leave the situation where it is and stock the lake with smallmouth bass. They would thrive in this lake due to the abundance of natural bass food, crawfish, etc. I should hate to see bass introduced into this lake, but it would certainly pro vide an abundance of sporty angling. We can't just stand by and see the yellow perch take over. Don't you agree?

I further believe that it might be advisable for the Conservation Dept. to concentrate on stocking the pure trout ponds back in, such as Olmstead Pond, Hedgehog (Clear) Pond, Darning Needle, Simmons, Spectacle and Cowhorn ponds—all within reasonable packing distance from the head of the lake. That is where your trout fishing will be in the years to come. Also suggest that such streams as Cat Mountain Brook, Six Mile Brook and the Grasse River receive extra stocking consideration, and that fishing be permitted on the tributary streams in view of the situation now confronting us.

M. E. Grout, Cranberry Lake

● *The establishment and expansion of the yellow perch population has had a decidedly detrimental effect on the brook trout fishery in Cranberry Lake. However, in comparison with other waters Cranberry can still be said to afford fair trout fishing. This is confirmed by creel checks during the past season. In a lake of this size, with a good tributary system, it may be possible to maintain brook trout at a fair level despite yellow perch. Therefore, I question whether it would be sound to make an abrupt change in the management policy at this time.*

If it becomes necessary to manage Cranberry for some species other than brook trout, which is a distinct possibility, it would be best to try a species such as salmon or another species of trout which is suited to conditions found in the lake. Bass should be considered only as a last resort. The introduction of bass into trout lakes has often produced more problems than fishing.

I cannot agree with your opinions on finclipping. Repeated experiments have shown that fin-clipping properly done does not handicap the fish. We have checked thousands of finclipped trout, many of which were recaptured two or three years after removal of the fin. The number of incidences of infection or even noticeable irritation around the site of the severed fin are so few as to be entirely negligible. Fin-clipping is a very valuable tool of fishery management. It makes it possible to determine the fate of stocked fish and thus to develop better management methods.

The ponds in the vicinity of Cranberry Lake which are suitable for trout, such as Olmstead, Cowhorn, Hedgehog, etc., are stocked each year by plane. We have checks on the results both from fishermen's catches and from test netting. These ponds are providing excellent fishing at the present time.

Permitting fishing in the tributaries to Cranberry is a possibility that may deserve consideration. However, the tributaries would provide little fishing under the present laws because most of the trout in them run small. It is also probable that the tributaries supply a good number of the wild trout caught in the lake.—W. M. Lawrence, Senior Aquatic Biologist.

NIGHTCRAWLERS

Gentlemen: I am a boy of 11 years old. The other day I was helping my Mother plant flowers in her garden after a rain. We found a mess of huge nightcrawlers and I got an idea. Nobody here sells worms and I would like to go in the bait business. Can you tell me how I can fix up a good box to keep the worms for sale? How could I raise them? Can you tell me too what is the usual charge for worms?

My father gets your magazine and we fight over who reads it first. He likes the hunting and I enjoy fishing even better than eating, and my Mother says I sure can eat. We have some good places for fishing around here but I never catch very big fish.

Bruce Newman, Carmel

● *Go to it; no restrictions on raising or selling worms. Try keeping them in a box with some wet leaves or moss on the bottom, then some loose dirt, then a layer of sod. Corn meal makes good feed. Nightcrawlers usually sell for about a cent apiece; sometimes and some places, for more than that. We don't catch very big fish either.—Editor*

WITHIN THE BLUE LINE

Dear Editor: I'm still confused! The article in the April-May issue "Within and Without the Blue Line" cleared up a lot of points. As I understand it, the land within the Line constitutes the Park, the term "Park" including and applying to all private and State lands within the Blue Line, which according to law, "should be preserved, maintained and cared for as land opened for the free use of all the people." Do I understand this correctly?

Yet, a considerable portion of the private land, as private preserves, parks, etc. is posted—most, so worded as to virtually prohibit breathing the air that blows from them or even to look upon these holdings, much less set foot within their boundaries. Thus the lands within the Line, constituting the Park, are not *all* "opened for the free use of all the people." How come?

A. Aalto, Jamaica

● *The Park was set up merely for administrative purposes and to facilitate the acquisition by the State of lands within its boundaries. Within these boundaries, only those parcels of land bought by the State are part of the Forest Preserve and open "for the free use of all the people"; private land within the Park is just as private as land similarly owned elsewhere in the State, and similarly may be posted.—Editor*

SUGGESTION

Dear Sir: The chart (horizon profile of mountains) on Page 8 of the June-July edition suggests an idea that I would like to pass along for the consideration of the Conservation Department.

I believe much could be added to the pleasure of amateur mountain climbers in New York State if line drawings, similar to the attached chart, could be mounted on the windows of the Fire Towers. The maps provided in the Fire Towers are local quadrangles only, and it would certainly be informative if the visitors, looking 50 to 75 miles North for example, could positively identify "Marcy," "Haystack," "Saddleback," etc.

A fine line of scotch tape on the windows would outline the profiles of outstanding peaks. Or if that would interfere with the fire warden's visibility, a hinged transparent visor with profiles marked thereon might serve the purpose.

Robert M. Lake, Rome

● *We passed this idea along to our Bureau of Forest Fire Control, and they think it's a good one.—Editor*

WOE IS WE

The heron which ain't(?)

Dear Sir: In your August-September issue, on page 32, you show a picture of a great blue heron's nest and eggs and young.

Could be. But I'd bet my next subscription to *The Conservationist* (and that's something) that this is a picture of the nest, eggs and young of a marsh hawk. How about it?

D. G. Moyer, Syracuse

Dear Sirs: The nest pictured is that of a marsh hawk, a harrier species of hawk, and not a great blue heron as stated.

In general the great blue heron nests gregariously in trees. The marsh hawk hunts in open field country and nests in a marsh-swamp type of habitat. This hawk is protected by N.Y.S. law.

Donald J. Gamble, Snyder

Dear Editor: Surely this is an error. The figures show typical nest of marsh harrier (*Circus cyaneus*). The "hawk" nests on ground and is a familiar sight flying low over marshes and damp fields searching out its fare of field mice and other small mammals. It is protected by N. Y. State law. Its true name, harrier, refers to its method of hunting back and forth across a field, "harrying" the area.

Walter R. Spofford, Syracuse

Our editor, poor busy man,
Trusts others—or thinks he can.
Prints two pictures in "Scatter Shots,"
And calls them something that they're not.
Those young marsh hawks have had their day.
They're not blue herons, by the way!

W. A. W., Ithaca

Dear Sir: Shame on you fellows in Albany! I know a photograph of a nest and eggs is frequently hard to identify, but how you could call those hungry little marsh hawks "great blue herons" is beyond me! The nest "on a hummock in a swamp" should have been a give-away that it didn't belong to a blue heron, since these birds almost always (if not always) nest in trees. I'll bet you get plenty of letters about this one!

Kenneth C. Parkes, Curator of Birds
Cornell University

● *Letters, and poesy too. Photographer Warner (who took the pictures) stopped in the other day and says he flushed a blue heron off that nest at least a dozen times. And he says he really does know the difference between a blue heron and a marsh hawk. Anybody who wants to can take over from here; personally, we got business out of town.—Editor*

MORE ON SABATTIS

Dear Sir: Just read the letter from Mrs. Hartwell Smith (Aug.-Sept.) in reference to the birth date of Mitchell Sabattis. Donaldson's belief that he was born in 1801 is nearer correct than Mrs. Smith's (1819). Mr. Sabattis was my great grandfather on my mother's side of the family. He was 104 years old at the time of his death and died around the time of my birth in April, 1904. If he had been born in 1819 and died at 104 he would have died in 1923. At that time I was 19 years old and I would have remembered him. My information on the date of his death came from my great uncle and aunt, Harry and Anna Sabattis, of Long Lake, where I was born and where most of Mitchell Sabattis' children were born after he left Newcomb.

Charles E. Lewis, Schenectady

HUNGARIAN PARTRIDGE

Dear Mr. Wells: I have just read your article in *The Conservationist* and I am glad to know that there is some one in the Department who feels as I do about the Huns and is not afraid to say so.

I went over the river for the first day of the season in Ontario, and don't let anyone tell you that the hunters are going to exterminate the Huns.

Four of us hunted together with my pointer and we raised well over 200 birds and managed to get 10 of them. I saw twice as many Huns as I ever saw quail in South Carolina, and they are at least twice as hard to get. As you know, they had their first open season last fall and the protectors told me that the hunters took a lot of birds, but I think they have now all the birds they can support even in that rich farming section where we hunted. I am positive that we had many more birds on this side of the river ten years ago when I tried to convince the Department and bird hunters that we should kill a few of them off.

We have been trying to stock up the State with these Huns now for the past 40 years, and I think it is about time that we realize that we just can't do it. We should begin to realize that there are many miles of territory where they just won't live—the same as all other birds. We don't seem to feel that our grouse, woodcock and pheasants are so few that none should be hunted, and in the past 50 years I have never found any section where grouse, woodcock or pheasants were as thick as I have seen Huns. If I ever could find 200 grouse in 8 hours of hunting and I could not kill 50 birds, I would lay my gun away.

If you have never hunted these birds, let me give you a tip. Don't use skeet loads and 9 shot. Use a heavy load of 7½ and 6's.

Ray L. Burmaster, Saranac Lake

Gentlemen: It was with considerable interest that I read the article on Hungarian partridge in the last *Conservationist*. But while it gave the impression that there would be some hunting of these birds, it did not state so definitely. Would you mind letting me know if there will be an open season on them, and if so its dates and limits?

T. H. Giberson, Sidney

● *No definite plans as yet. The idea is something new, and it will take a while to consider all the angles.—Editor*

HOW FAST CAN DEER SWIM?

Dear Editor: On August 20 of this year I had a chance to clock with a Chris-Craft tackometer a doe (about 2 years old) swimming Tupper Lake. When she first discovered the boat behind her (about 30 feet) she swam in real earnest for nearly ¼ mile at a speed of 13 mi. Then discovering that we were not going to hurt her she slowed down to 11 mph for the balance (a little better than ¼ mile). All told she swam about ¾ mile ahead of us.

Henry R. Hinkson, Tupper Lake

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WITHOUT MAP AND COMPASS

Dear Editor: In reference to your article "With Map and Compass" in the June-July issue by Al. Davis, I wish to argue that with proper knowledge anyone can get along without a compass. Carry an open faced watch. Hold it horizontal with face up. Hold a match at the hour hand so that its shadow falls exactly on the hand. In the morning the point ½ way between the hour hand and 12 points to the South. In the afternoon, the direction is reversed—so counterclockwise towards 12.

Ray Bennett, Ithaca

● *But suppose there's no sun to cast that shadow?—Editor*

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THE CHATHAM MOOSE

Gentlemen: About two years ago you had an article about moose in this State and the last one you had on record was about the turn of the century. I meant to write to you before but put it off. About 1925 hunters in the Austerlitz Mountains reported seeing tracks of an exceptionally large buck while deer hunting. The following year the same reports came in and early that winter a cow moose was killed by a N. Y. Central train outside of Chatham. The meat I believe went to the Columbia County Sanatorium and they exhibited the head for a couple of days in my uncle's (Wm. E. Carney) store in Philmont. I was living in New York City at the time but was in Philmont on the weekend and saw the head in the window. I believe Chester Merrifield was Game Warden at the time. Possibly he or Lew Schrader (then his assistant, but later the Warden) or my uncle could give you more details.

I thought this might be of interest to you as it would set a much later date for moose in N. Y. State. I might be wrong by a year but the others would probably remember the correct date.

Earle V. J. Carney, Nassau

● *The belief then was that the "lady" was an itinerant, chased down through New England. —R. B. M.*

NO BIG GAME FOR MINORS

Dear Sir: I have a nephew who wishes to go hunting deer this fall and I would like to know if a 14-year-old must have a special deer license? Also, is he permitted to hunt deer at all at his age?

George V. Curtis, Syracuse

●*Under no circumstances may a person under 16 years of age legally hunt deer or bear in this State.—Editor*

WATER SNAKE

Dear Sir: I am enclosing a picture taken July 4 at one of the feeder streams entering the pond at E. Randolph, N. Y. The picture was taken at a distance of about three or four feet at 2 P.M. Other technical information unknown.

The picture was taken by Chas. Andolsek of 31 Beech St., Gowanda; water depth about three feet. The snake was a water snake about three feet long and the fish was a 7½ to 8 in. horned dace. Shortly after the picture was taken the snake was destroyed.

Ed. Wickham, Gowanda

THE CALL OF DUTY

Dear Editor: This letter has a two-fold purpose; to commend recent activities of Wardens Charles Perry of Penn Yan and Herman Fleishman of Bath, and to lament the lack of any publicity given to enlighten the public. When the empty boat of Willis Northrup was found with fishline out near Pulteney on Lake Keuka last month, it was assumed he had had a heart attack and fallen overboard. Men from the sheriffs' offices in both Yates and Steuben counties began dragging the 150 ft. depth on the boundary line where boat was discovered. Campers, neighbors and curious were loud in the praise of "those State Troopers" who daily —for nearly two weeks—"got there furstest, stayed there longest, worked the mostest."

When I joined the search, I was surprised to learn that the "Troopers" were actually Game Wardens and Ranger Geo. Bailey, with possibly some deputy sheriff uniforms mistaken also. This in no way belittles the excellent work of Sheriff Chas. Reynolds' office or of the Troopers; but the unintormed public should know that a Warden's duties are many beside measuring litt'e fish, looking at licenses and lurking in bushes for violators.

A. I. Tyler, Pulteney

MT. MARCY MAMMAL

Dear Sir: On July 23 I was on the summit of Mt. Marcy with my young grandson and while there saw a small animal unlike any hitherto observed in my rather extensive travels in the Adirondacks. It was about the size of a gray squirrel, had very fine soft fur, gray on the back and white on the underside. Its tail was flat and about an inch wide, spreading in shape like the fronds of a fern. Its nose was rather blunt. It had little fear of us, for we approached within 3 or 4 feet of it. However, this may have been due to an injury, for on one side of its head there was a red spot having the appearance of blood. I hope somebody in your organization will be able to identify the little creature.

Edward A. Harmes, Sugar Hill, N. H.

● *Undoubtedly the northern flying squirrel. Its injury would explain its tameness, and also why you saw it by day (they're normally nocturnal).—Clayt Seagears*

ADIRONDACK ZOOLOGY (1793)

Dear Sirs: Up here at the old homestead I found a copy of Morse's Universal Geography, published at Boston in 1793. From a conservation point of view, the following paragraph should be interesting:

"In the northern and unsettled parts of the State, are a plenty of moose, deer, bears, some beavers, martins, and most other inhabitants of the forest, except wolves. Ducks, grouse, pigeons, and fish of many kinds and particularly salmon, are taken in great abundance in different parts, especially in the County of Clinton. At the mouth of the Saranac River, which falls into Champlain, the salmon are found in such plenty that it is usual to take 4 or 500 a day with spears and small scoop nets. They are caught from May till November, and make excellent salted provisions, and every cottager, by spending an hour in the evening, may obtain a sufficient supply for his family."

Funny that cats are not mentioned and wolves excepted.

Gil Emerson, Upper Montclair, N. J.

FROG LAW

Dear Sir: Is it legal to fish with frogs for bait?

Luther J. Bryant, Mexico, N. Y.

● *Yes, provided the frogs are legally taken. See Conservation Law on frogs.—Editor*

ADIRONDACK PANTHER

Gentlemen: To settle several arguments, will you please identify the animal in the enclosed snapshot? The picture was taken at Hagadorn's Mills, Saratoga County about July 15.

While it appears to be an ordinary house cat at first glance, the size of the animal, the markings on the tail and face and the shape of the ears seem to indicate that this is no ordinary cat.

H. L. Jaycox, Ridgewood, N. J.

● *Not ordinary, but still a pussy.—Editor*

IN GARNET LAKE, WHAT?

Dear Editor: Some time ago I was fishing Garnet Lake and I noticed a great many organisms in the water which I haven't been able to identify. They are between a quarter and three quarters of an inch in diameter and look like a gelatinous, oscillating umbrella. They look like close relatives of a jelly fish. Probably some kind of algae, but I have never seen them before in any other water. Are they injurious to fish or humans?

Keep up the good work. We'll help all we can.

Charles Antemann, Schenectady

● *Our Aquatic Biologists suspect you saw either medusae (a form of fresh water jelly fish), or colonial algae. The medusae are quite uncommon in this State, and if you've really found some we'd like to know more about it.—Editor*

RECORD MUSKALONGE

Dear Sir: Note the article, "Our Muskalonge Fishery," current issue (August-September 1951) in which you give as a record for Chautauqua Lake a 42 lb. fish caught by Allen A. Thayer.

If you will refer to December-January '46-'47, Vol. 1 No. 3, page 26, you will find a photograph of Dan Horne (since deceased) with a 42 lb. 5 oz. fish. Since I witnessed the weighing and measurements of this fish, I believe you will want to correct this misstatement in the next issue of *The Conservationist.*

F. E. Chalmers, Mayville

● *We dunnit again. The man is right.—Editor*

MUZZLE-LOADERS

Dear Editor: Will you please enlighten me on the laws concerning the use of muzzle-loading rifles for hunting? I am interested particularly in the area of Broome and Tioga counties.

Richard D. Barton, Union

● Muzzle-loaders may be used when and where any other type of rifle is legal; in other words, the Conservation Law makes no special provisions or restrictions for the use of muzzle-loaders. —Editor

WHA' HOPPEN? ELEMENTARY!

Dear Sir: The answer to "Wha' Hoppen Here?" in your August-September issue is simple. The tree (top photo) was obviously storm-felled, taking with it a hunk of roots, rocks and soil. The woodsmen started to cut it close to the trunk and were discouraged by the splitting which is clearly shown in the picture. They cut it at a point above the split and after the weight of the tree top was removed the stump slowly righted itself almost to the perpendicular.

Much hurricane-felled timber did the same when the tops were removed—in fact it is typical. The weight of material caught in the upended roots far out-weighs the stump and a gradual righting takes place—sometimes over two or more seasons.

Elementary, my dear *Conservationist!*

James Rintoul, Westbrook, Conn.

Dear Sir: "Wha Hoppen Here?" Well, here is evidence that it's my wife, Esther, and not Paul Bunyan who tops trees half way up. It happened when this tree fell across our car on our place in Stephentown Center (Rensselaer Co.) during the storm of last November. The tree straddled our car, but did not scratch it. It swung back into its original position after being cut. The roots and attached earth served to counter-balance it back into place. It was a poplar.

Albert Cohen, New York City

Dear Sir: It looks to me like the stump of a big blow-down that was cut 12 or 14 feet from its base because the log started to split when the first cut was made. You can see the saw mark of the first cut about two feet above the snow. After the tree had been cut off the root system, being very heavy, caused the long stump to stand in its present position.

Paul T. Doherty, Conservation Officer,
Randolph, New Hampshire

Sirs: That there stump was a blow-down which, on being cut through, righted itself due to weight of roots and soil. A lot of loggers are going to, or already have, had the same experience in the Adirondack salvage work.

A. Walton, Jamaica

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933; AND JULY 2, 1946 (Title 39, United States Code, Section 233) OF THE NEW YORK STATE CONSERVATIONIST published bi-monthly at Albany, N. Y. for October 1, 1951.

1. The names and addresses of the publishers, editor, managing editor, and circulation managers are: *Publisher, New York State Conservation Dept., Albany, N. Y.; Editor, Pieter W. Fosburgh, Albany, N. Y.; Managing Editor, Roland B. Miller, Albany, N. Y.; Circulation Manager, Michael C. Wales, Albany, N. Y.*

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PIETER W. FOSBURGH, Editor

Sworn to and subscribed before me this 6th day of September, 1951.

AGNES M. KEENAN
[Seal] Notary Public, State of New York
Appointed for Albany County No. ——.
My Commission Expires March 30, 1952.

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Second cover, pages 2, 8, P. W. Fosburgh; 7, 20, 21, 29, Clayt Seagears; 10, 11, late Dr. H. P. Brown; 13, 25, 26, Nick Drahos; 16, Fred Everett; 17, Fred Everett, Don Pasko; 18, A. A. Allen; 22, Ben Bradley; 23, Art Cook; 28, Louis R. Murray; 30, Gerald J. Rider; 33, John Wilson, Earl McGuirk.

RIMFIRE

Dear Sir: A certain sporting goods dealer insists that all center fire rifles, starting with Hornets, can be used for deer. I thought all small calibers had been outlawed.

Reece M. Bowling, Sr., Highland

• *Where rifles may be used on deer, any rifle—excepting those using rimfire ammunition—is legal.—Editor*

WHAT WAS IT?

Dear Editor: Apropos of the article in recent issue on "Screams in the Night," I am sending you this story in case you would like to publish it. I assure you and any readers that this story is true in every detail.

In my High School days some 40 odd years ago I used to hunt wild bees as an avocation. Most of this hunting was done on and around the mountains adjacent to Ticonderoga, N. Y., my home. Incidentally, the farmers about had herds of sheep which foraged on these same hills. At the time of this story I was employed during the summer vacation at the High School helping the janitor, Frank Bergeron, of Burlington, Vt. get the building in readiness for the new school year. Bergeron was not very sophisticated as far as the woods are concerned but hearing through my tales of bee hunting how interesting and profitable (sometimes) the sport is, he asked me to take him along some time. I did.

On a still and sunny Sunday morning we proceeded to the Trout Brook valley at a spot about where Rogers had his famous battle on Snowshoes with the Indians and French during the war of that name. To the east of us were the three mountains separating this valley from Lake George; to the west, an unbroken forest of some 15 miles width stretching clean to the State road going through Schroon Lake (the New York-Montreal highway. About 200 yards down (north of us) the road Ed Hill and his son, along with a dog, were starting out in the same direction and on the same mission as we. Both groups started their "line" at about the same time and worked diagonally eastward up what is known as O'Brien's Mountain toward Lake George and it's outlet.

We soon lost sight of Hill and his boy, as our "line" went up the steep and rocky ledge directly in front of us. We had not gone far when Bergeron said, "George, I hear something following us!" I laughed at his apparent uneasiness and replied; "It's probably that dog of Ed Hill's!" We went on. Why not? I had hunted over the area many times in the past and had never seen anything larger than a rabbitt or fox. I remembered afterward, however, that I had always had a dog along with me.

Pretty soon Bergeron, apparently on the alert, said, "Mac, I just saw what is following us, and it is that dog!" He had heard a slight noise behind us and had gotten a glimpse of something. We were still going diagonally up the steep and loose-rocked ledge. "Funny," I remarked, "that that dog would leave them and follow us!"

We went diagonally up the mountain. Occasionally we stopped to set up box and allow the bees to renew their "line," and at least twice more during this procedure Bergeron said that he heard the slight noise of whatever was following us. By this time I had judged that he was just overly jittery and probably scared to be in the woods.

We had finally reached the top of the ledge and were proceeding along a less steep part of the mountain. I had set up box in an open place on a smooth and slightly slanting rock. The box was in the crotch of a sumac and I lay on my back with my hands cupped behind

All About PANTHERS

my head intently watching the goings and comings of the bees. We were getting reasonably near their tree, and I was absorbed in the hunt. Bergeron sat beside me on my left. Suddenly, he let out the most blood-curdling scream I have ever heard, followed by the frantic cry of, "Oh, look at that wild animal!" Thus far I had neither seen nor heard anything, but this time I distinctly heard something running away.

Almost directly behind us and about 75 feet away a large pine tree had fallen and had

What a panther really looks like

lodged on its stump, so that there was perhaps four or five feet of clearance between it and the ground. Apparently Bergeron had heard another slight noise and turned his head in that direction. The animal was just under this lodged pine when he saw it. Bergeron was frantic, the most scared Frenchman I ever have have seen. In practically nothing flat he cut with a pocket knife a small red oak about three or four inches in diameter and got himself a club. Then, with hands blistered from the cutting, he begged: "Now if you know the way off this mountain, get me off it!" I realized I had to get him off or have a maniac on my hands, so I picked up my bee box and started. He did not begin to regain any sort of ease until we stepped out into the road again.

What did he see? I asked him to describe the animal. His description: "It looked just like a big coach dog without the spots, and light brown in color." I handed him a book of animals and asked him to pick out one that looked like the one he saw. After turning the pages he suddenly exclaimed, "There is the animal I saw!" He pointed to the picture of a *panther.*

I questioned my Father who had been around these woods for years previous. He laughed. "Probably a deer," he said. "They are very curious!" I told Ephraim Blood, another old inhabitant and hunter, about it. "Of course it was a panther," he declared. "I have seen him twice!" I asked Lee Garfield whether he had ever seen a panther or the track of one in the Adirondacks. His answer, "I found the track of one up toward Pharaoh Mountain once but I decided that if he would leave me alone, I would him!"

—G. W. MacLaughlin, Principal
Camillus High School

Gentlemen: The following incident took place at approximately 12:45 A.M. the morning of June 30 this year while my wife, my son and I were on our way to our camp on Auger Lake in Essex County near Keeseville.

We were on a county road and had just turned a bend when up ahead about a hundred yards my son and I saw a tan-colored form just off the road in the bushes. Both my son and I thought it was a deer partially concealed by the foliage until we had driven up to within 50 yards of the object, when we discovered it was not a deer. About this time the animal came into full view and raised its head and looked squarely at us and then gave a sort of a half bound and disappeared into the forest. My son looked at me and said, "Did you see what I saw or am I dreaming?" I told him it was no dream and that we both saw the same thing. This animal was about six feet long overall and stood between two and two and one-half feet high, and as I have already said was the color of deer.

I have spent all of my life in the outdoors and so has my son, and we have never seen the animal like the one described except in a zoo or a circus; you can draw your own conclusion as to what it was, as I am not trying to sell anyone a bill of goods, but both my son and I know what we saw.

Merrill C. Wells, Schenectady

Dear Sir: In your June-July issue it is stated that panthers were last recorded in Vermont in 1881. I refer you to the Long Trail News of Nov. 1950 in which it states: "I am at least the third person to report seeing a panther near Hobby Hill Camp in Newfane"; and "Panthers have been reported also in the Lincoln-Warren Pass." There seems to be convincing evidence of panthers in the Green Mountains, as not less than five people have disappeared without a trace in the southern part of the State.

Douglas DeNike, Albany

• *Don't blame those disappearances on panthers; they sometimes trail humans (probably out of curiosity) but records of actual attacks are extremely rare.—Editor*

Dear Sir: Having read your article on the panther in the June-July *Conservationist* I have something to relate here regarding the panther that formerly inhabited this part of the State.

Edwards (where I live) is only 10 miles from the Town of Fine, St. Lawrence County, and you say in your article on the panther that 15 of them or so were killed in the Town of Fine about 1880. Well, 25 years after that in the Town of Edwards (or about 1904 or 1905) my mother used to go to the next door farmer's place to visit at night, drawing myself and my older brother in a wagon to this neighbor's. The road ran along the bottom of a hill, and she said a panther followed along the top of that hill screaming until she got to the neighbor's house. Then it would continue to scream for about five minutes before going into a large woods just beyond. She said this happened a number of times that year and the next, and the neighbors also said it was a panther.

Everett Todd, Edwards

Dear Sir: I have hunted 15 years in Franklin County and have always seen deer of some description. Last year, after a few days' hunting on snow and seeing no deer and very few tracks, I saw an animal running along a pond towards me, jumping over fallen trees and never changing its stride. When he got to the end of the pond he turned and crossed an open meadow where I got a very good look at it, and it was a very dark, almost black, panther.

I didn't want to say anything to my companion about it, knowing he would doubt my word, but I finally did. He looked at me kind of funny. Not until several other hunters in the same section saw and shot at one did he believe me. Since then I have no doubt that panthers have come back in New York State.

Earl F. Crombach, Ontario

Dear Editor: My father, Wm. (Bill) Gillies was a guide for Verplanck Colvin when he killed the big panther (200 lbs.) There were for a number of years a pair of those big cats that seemed to make a circuit around a 30-mile area. Rube Carey killed a young one somewhere near Raquette Lake. It was mounted and was in the Lake House bar on Long Lake for a long time.

My dad was stillhunting a deer on Owl's Head Mt. when a panther also took up the hunt. He followed the two until it was too late to hunt. On making his way around Clear Pond (Lake Eaton) he was going through a down balsam tree when a limb broke too close to his hand and flew back and broke his nose, causing it to bleed profusely. In the morning we found panther tracks in our pasture less than half a mile from the house. He had followed the blood and some places he crouched and crawled as much as 30 feet as if preparing for a leap. A big panther was killed that winter near Salmon Pond, but not until it had killed two dogs of the hunt.

When I was about 9 years old (1890) it was spring and the ice was breaking up so we had to go around the swamp and across the old floating bridge to get to town. We lived opposite the Sagamore Hotel. One night I was coming home with a small leg of mutton a neighbor had given me and I heard a noise in a virgin spruce not three feet from the road; bark rattled on the leaves below. I stopped to listen and, hearing nothing, once more started on. At about the third step he sang the news and believe me it was my move. I ran right out from under my hat.

In the morning with dad and a gun we went back for my hat which had been pawed about in the mud of the wheel track. I was mighty glad I had not been under the hat at that time, as we found some tracks in the snow that measured nearly four inches.

L. H. Gillies, Nantahala, N. C.

James Hy Q. Crow

THE common crow is a very comical creature. We once watched a tame one cram himself with Golden Bantam kernels which his owner had playfully marinated in a couple ounces of Great Gran'pappy's Old Favorite Giggle Juice. The bird soon became modestly barleycorned and lurched off down the garden path, pausing to sit back on his frazzled tail, roll the milky nictating membrane of his elfish eyes and croak a few opening bars of My Bonnie Lies Over the Ocean.

Now when this crow was in the very prime of voice, his rendition of what he knew of the piece was not good. But oiled by the numbing osmosis of the Old Favorite, he really gave Bonnie a beating. Of course all us onlookers went limp with laughter, including an Old School Embalmer not usually given to the cracking of a public guffaw.

For some time thereafter, this crow showed a decided preference for yellow corn which he ate with a regular ritual. After consuming a dozen or so kernels he'd cock his head and give with Bonnie's first few notes. We always figured he was checking himself against the result.

The crow's intelligence, tests show, puts him at the head of the class of native birds. He's a flock organizer and social administrator with a long code of commands and small talk far outsmarting the wisest old Canada goose going. He's a versatile mimic shaming the mocking bird. Only a few members of the parrot people and the Indian Hill mynahs—themselves Asiatic cousins of our crow—beat him as a talker. He's much more adaptable to extreme changes of food and environment than an inland sea gull.

The crow definitely enjoys human company when he's tame and shows great ability to shun it when he's wild. He has a well developed instinct for storing up secret hoards of stuff pleasing to his beady eye. Give him an opportunity to do something unusual and he'll usually do it.

The crow's economic status depends on just how many crows are on deck to eat things Man wants to use for himself. Where crow populations are dense on duck nesting areas, it's certain he'll eat a painful percentage of their eggs. Also, many ducklings will kick off in crow craws, especially when drouths pull the water from the cover and put the young stock out in the open.

Of 551 ruffed grouse nests found broken up in New York State during 13 years of the Conservation Department's intensive study of this species, 4½ per cent were attributed to crows—which usually take the eggs from the nest and leave triangular bill punctures in the shells as clues. It is interesting to note that studies of blue-wing teal nest predation on the prairie breeding grounds show exactly the same percentage of breakup by crows. Lack of trees on the prairies, however, holds crow populations way down. The story is different elsewhere.

Certain nesting crows have been known to make direct visits to the nests of the area's song birds to gather the day's dividend of new-laid eggs. When corn is available, it can be expected to comprise at least 35 per cent of all food taken.

On the other hand, there's no question but that crows destroy far more cutworms, white grubs and grasshoppers on agricultural lands than any other birds. The amount consumed is unbelievable. At times they perform mouse mayhem as adroitly as a fox. As carrion consumers, crows have almost no peers except garbage cans. Motorists are constantly flushing them from the highways where they have been busy cleaning up the tire toll of toads, turtles and Tomcats. This penchant for ripe tripe is often what makes crow meat high instead of high class—even when prepared according to a fancy recipe the wife of a famous Austrian chef once sent us. It called for use of such wines, sauces and assorted herbs as to render piquant the sole of a street cleaner's shoe. We understand, however, that crows (rooks) are commonly cooked in Europe. Lots of folks eat crow here too. A hunting friend of ours named Gabe Card regularly used to send a package of plucked crow carcasses to a Brooklyn housewife. Her husband ate them with relish.

Crows don't like owls. They invariably mob them, making a racket that is hearable for miles. Small birds don't like crows. The life work of the kingbird is to chase every crow out of the country. The kingbird is one of the busiest little birds that we have.

The crow's eyes are unusually sharp, even among a family known for keen vision. It's one of the great tragedies of the wild when crows occasionally go blind in winter. In zero weather, especially when the birds are disturbed at night so that they withdraw their heads from the protection of their back feathers, the tender corneas of their eyes may freeze.

Crows begin to flock together in late summer after the young have learned to govern themselves according to the Head Man's signals—which crow students have classified into a dozen or so recognizable commands. By October, millions have begun to head South, rowing across the skies in great flocks at around 30 miles per hour. But a lot of them stick around New York State all winter, coming in from distant feeding grounds to congregate in roosts, often huge.

ONE roost, usually near Gates in Monroe County, once held up to 45,000 birds. Another in Orleans which moved in the area between Canandaigua and Phelps housed almost as many. A dozen big roosts still remain—the exact locations often varying from winter to winter—in the lowlands of western New York, the lower Hudson Valley and Long Island.

The birds roost together from November through March when nest building begins. By mid-April the eggs are laid. From then on, almost every woods, especially pines or hemlocks, is noisy with the feeding racket of little crows—the most gluttonous sound in all the world. That's usually how small boys locate them and cart them home for pets. Soon thereafter, when the youngsters have been reared on spooned rations of mushy dog mash, the family jewels get taken for a sleigh ride.

Tame crows given their freedom invariably hang around home just the same. They have two objectives. One is food. The other is to swipe any bright carryable object and stow it in some secret place.

Several years after a tame crow disappeared we found six heavy silver spoons and a butter knife plus several pounds of other shiny miscellany, mostly broken china and glass, hidden in an old leather gun case in the barn. That crow must have made a hundred trips to that gun case but nobody once saw him near it. We never could figure how he made off with the spoons either. They weren't ours.

—CLAYT SEAGEARS

James Hy Q. Crow

NORTHERN PILEATED WOODPECKER

Phloeotomus pileatus abieticola (Bangs)

Courtesy of N. Y. State Museum

MALE

FEMALE